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Strong Roots 2

Climate Change Adaptation Project Report



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1.0 Introduction

Climate change is clearly a global issue, but also one that manifests itself locally. The global dimension requires an understanding of the world's climate (i.e. **physical** science). Local adaptation requires a knowledge of projected physical impacts (i.e. physical science) but also a deep understanding of how (a) communities behave (i.e. **social** science) and (b) how to motivate behaviour change (i.e. **psychology**). Any project in this area must acknowledge this broad depth of factors and assemble an appropriate team of people to deal with them. The Strong Roots 2 project has aimed to achieve this blend.

The 736 Community and Town Councils across Wales represent a direct interface between communities and government. Given the stark warnings of climate change for the future, both globally, and within Wales, Strong Roots 2 set out to further explore the potential of Community and Town Councils to engage with their communities and to address climate change adaptation and resilience at this level. As indicated in Strong Roots 1, the potential contribution of Councils has been somewhat overlooked; nonetheless, this tier of local government is closest to the community and, importantly, embodies the kind of locally-relevant knowledge, expertise and community networks that could support such action.

Community and Town Councils across Wales are as individual as the communities they represent. Each Council has unique strengths, and it is important to acknowledge contextual factors when considering the contribution that each Council can make. Taking the local context into account and tailoring strategies are central to the Strong Roots research ethos, as is acknowledging and empowering community and town councillors as equal partners in the process. Moreover, the potential contribution of Community and Town Councils across Wales represents a significant step forward in developing innovative ways to tackle climate change impacts, increase resilience and engrain sustainable practices, both as a community and as a nation.

This report builds on the findings of the previous Strong Roots 1 research project and details the findings of an investigation into the potential role of Community and Town Councils as local leaders of climate change adaptation, and the behaviours, resources and skills required to fulfil that role. Strong Roots is an initiative that aims to highlight the potential of Community and Town Councils as leaders in addressing climate change issues locally, and as supporting partners to the Welsh Assembly Government in its commitment to the development of sustainable, resilient low-carbon communities. This particular project is an aspect of this wider initiative.

1.1 Project Aims

Strong Roots 1 told us that climate change is perceived by the sector as a global but not a local issue. Where it is perceived as local climate change typically equates to flooding, not heat/drought/sea level rise. In addition, opportunities that may be linked to climate change, such as growing new crops, are poorly understood. Moreover, community and town councils currently lack capacity to lead an adaptation process and need training on specific issues.

The headline findings from Strong Roots 1 were as follows;

1. There is a need to *improve knowledge* about local climate change projections and implications, particularly sea level rise in the south and south east of Wales.
2. There is a need to *develop effective climate change adaptation measures at a local level*. These measures should build on councillors' and Welsh public concerns about climate change and related issues (e.g., flooding), to exploit existing social capital (e.g., community support during flood events) and good practice in sustainability at the community level.
3. There is a need to *recognise* that climate change adaptation is a *local* as well as a national and global problem.

In light of these observations from the previous project, it was concluded that further training and provision of robust, long-term capacity development initiatives are required for Community and Town Councillors in Wales. These should specifically address:

- a. Identification of local climate change risks and opportunities.
- b. Education about local climate change impacts.
- c. Awareness-raising and analysis of best practice climate change adaptation projects.
- d. Awareness-raising of and contact with organisations that can assist climate change adaptation activities.
- e. Training for use of tools to assist climate change adaptation activities.

It followed that our headline aims for Strong Roots 2 were to facilitate councils/councillors to exhibit the following behaviours:

- Recognise the wider long-term implications of climate change for their communities and be able to articulate and communicate these.
- Be confident and capable in recognising potential threats and assessing risk.
- Recognise the positive opportunities for taking action in their own communities and communicate these to their communities in an effective and inspirational way.
- Exhibit leadership skills in relation to climate change adaptation.
- Co-develop emergency or resilience plans in partnership with their communities to safeguard and improve quality of community life and wellbeing.
- Act as advocates for a community adaptation response and be confident to share learning with peers and partners across Wales.

1.2 Overall Project Method

The multi-disciplinary team brought together skills and knowledge in the following fields; community development, social psychology, community engagement, climate science, sustainable development, local government and resource management.

The project team developed a logic model that stated “four climate change adaptation strategies” as a primary output, but it was subsequently agreed that to be prescriptive and place expectation on the councils was not desirable. Instead, the team agreed to take the following approach:

1. Present information on climate change science and the projected local and global impacts.
2. Prompt self-reflection by councillors on their role (duties and responsibilities) and their relation to other civic and statutory bodies in relation to projected local and global impacts: enable councillors to recognise that councils have a leadership role in relation to climate change, which could conflict with their own personal view on climate change.
3. Support councillors to identify work and activities already happening in their communities, which could provide a starting point for developing climate change adaptation responses.
4. Provide training and instruction on community engagement and climate change adaptation using existing standards such as the Welsh Government’s own climate change adaptation guidance and associated methods and actively enable councils to develop community engagement action plans.
5. Use a “*plan-do-study-act*” self-reflection approach to project management.

Running in parallel to this was a social science investigation that would provide an analysis of behaviour change. This is explained in greater detail below as “*Social Research Methodology*”. In addition, an ongoing direct evaluation of the councillors’ responses to the project activities and methods would be conducted and fed into the “*plan-do-study-act*” approach.

The principal project activities focused on an extended programme of engagement conducted between October 2013 and May 2014. The engagement method is described in the next session. Running alongside the programme, a desk-based literature review and fieldwork comprising focus group interviews and questionnaire surveys with councillors were used to evaluate the programme. Actions and timescales are outlined in Table 1 overleaf.

Table 1. Project Actions and Timescales

Date	Activity	Responsibility
August-October 2013	Identification of councils across Wales. Contact with councils outlining the Strong Roots 2 Project and inviting councils to participate. Recruitment of councils and nomination of Project representatives from each council. Invitation to the Project launch	Paul Egan
October 2013	General information and web links circulated to participating councils	All
October-November 2013	First round of focus group interviews and climate change perception surveys conducted prior to Project launch	Nick Nash
September-October 2013	Workshop 1 programme design	Liz Court
22 nd November 2013	Project launch and Workshop 1 in Builth Wells	Project Team
November-December 2014	Support Visit programme design	Liz Court
January 2014	Support Visits	Project Team
January-February 2014	Workshop 2 programme design	Liz Court
21 st February 2014	Workshop 2	Project Team
March-May 2014	Second round of focus group interviews and climate change perception surveys conducted	Nick Nash
April-May 2014	Workshop 3 programme design	Liz Court
March-June 2014	Project report write-up	Nick Nash, Rhodri Thomas

Figure 1: Workshop 2

1.3 The Engagement and Support Programme

In Wales, the Community and Town Councils are the tier of local government closest to local people. Councillors seek community views, represent these to their local authorities and other bodies, deliver services and maintain and provide community amenities. Community and Town Councillors are the elected representatives with whom the public should be able to identify most closely. Councillors therefore have an important leadership role in ensuring the wellbeing of the communities they serve. In fact, the *Power to promote or improve Economic, Social or Environmental Well-Being under the Local Government Act 2000* was conferred on Community and Town Councils by the Local Government (Wales) Measure 2011. Although this has been welcomed in strengthening the Councils' role, it has increased their responsibilities at a time of recession and reduction in public services.

As it is now recognised that the effects of climate change will increasingly impact at community level, this puts Community and Town Councillors at the 'heart of the matter', giving them a key role to engage their communities in climate change issues. However, climate change is a complex and conflicted agenda and presents Councils with a number of challenges, not least how they will engage their communities, who will be on a spectrum from denying climate change to despairing that it is too late to do anything: views that may equally be held by the Councillors themselves.

Engaging individuals and communities in 'behaviour change' is acknowledged as being as important as developing technological and scientific responses and solutions to mitigate the escalating impacts of climate change. Highlighting the Councils' engagement role and building the Councillors' skills, capacity and motivation to actively engage their communities in climate change work was therefore seen as a key strand of the project and in determining how to deliver it.

The councillor engagement programme was informed by two guiding principles; Community Development principles and the National Principles for Public Engagement in Wales.

1. Community Development values and principles:

Community Development is a way of working with individuals, groups and communities to address imbalances in power and bring about change founded on social justice, equality and inclusion. It is a long-term process underpinned by five values - Equality and Anti-discrimination; Social justice; Collective action; Community empowerment, and Working and learning together. Community Development aims to enable people to organise and work together to:

- Identify their own needs and aspirations.
- Take action to exert influence on the decisions which affect their lives.
- Improve the quality of their own lives, the communities in which they live, and societies of which they are a Part.

2. The National Principles for Public Engagement in Wales

National Principles for Public Engagement in Wales

1. Engagement is effectively designed to make a difference.
2. Encourage and enable everyone affected to be involved, if they so choose.
3. Engagement is planned and delivered in a timely and appropriate way.
4. Work with relevant partner organisations.
5. The information provided will be jargon free, appropriate and understandable.
6. Make it easier for people to take part.
7. Enable people to take part effectively.
8. Engagement is given the right resources and support to be effective.
9. People are told the impact of their contribution.
10. Learn and share lessons to improve the process of engagement.

The programme of activities and interventions for the project was planned using a model of information giving, reflection, exploration, support, mentoring, networking, collective learning and action planning. Each Council was assigned a **Mentor** (a project team member for each Council) so that the councils had an identifiable and accessible person they could contact at any time. It was felt that using a more participatory, interactive and supportive approach would have more impact in enabling councillors to become more aware of the threat and impact of climate change and:

- Understand the wider long-term implications for their communities.
- Recognise potential threats from climate change and be able to assess the risks.
- Review and challenge their personal perceptions and position on climate change.
- Learn about innovative ways and ideas for adapting to climate change.
- Understand the contribution of local action in addressing climate change.
- Recognise the Councils' leadership role.
- Better understand the role of community engagement.
- Identify opportunities for taking action in their own communities.
- Plan how to engage their communities in emergency/resilience/adaptation planning.
- Share learning and contribute to a wider learning network across Wales.

The Strong Roots Project Team:

The core project team brought together people from a range of backgrounds and disciplines:

- Paul Egan (One Voice Wales).
- Rhodri Thomas (Cynnal Cymru).
- Liz Court (One Voice Wales).
- Dr Nick Nash (Cardiff University).
- Jim Poole (Natural Resources Wales).
- Lydia Beaman (C3W).
- Aled Vaughan-Owen (Cynefin Project).

Further details on project members can be found in Appendix 1.

Recruiting the Councils:

- Councils were recruited between August and October 2013.
- A shortlist of potential Community and Town Councils across Wales was drawn up by Paul Egan. Councils were selected on the basis of location, number of Councillors, precept and local population size, in order to generate a range of Councils that were as varied as possible.
- Letters were sent to the Clerks, giving information on the Strong Roots 2 Project.
- Councils agreeing to participate were asked to nominate project representatives, who were subsequently invited to the project launch.

Delivering the Engagement Programme:

- Focus Groups were held at each Council's Offices.
- Three workshops held in November 2013 and February and May 2014 in Builth Wells were staged to bring together and support the participating Councils.
- Individual Support Visits to each Pilot Council were held at each Council's premises in January 2013.
- Mentoring support sessions for each Council were provided at their Offices April - May 2014.
- Information and feedback from the programme activities were provided on an on-going basis.

Workshop 1 (22nd November 2013, Builth Wells):

The engagement programme was launched at the Royal Welsh Showground in Builth Wells on Friday 22nd November 2013 and ran between 10.30am and 4.00pm. It was attended by the project team and the four participating councils. It was intended that the first workshop would be used to outline the project and to explain what would be expected of the participating Councils. It was also treated as an opportunity to build a shared understanding and to enable the Councillors to get to know each other, explore how each was currently tackling local concerns and issues, and to share perspectives and learning in a safe and friendly environment.

The programme for workshop 1 is listed in Appendix 2. The event also provided an opportunity to introduce the project team and to provide current information about climate change, as well as exploring Councillors' perceptions of climate change. Climate change expertise was provided in a presentation by Dr Clive Walmsley (Natural Resources Wales and C3W). Councillors were also provided with relevant information regarding their role in developing and implementing climate change adaptation strategies within their communities.

Summary of workshop 1 aims:

- **Introduction to the project.** Workshop 1 was designed to introduce and inform Councillors about the Strong Roots project, to offer some background on the previous Strong Roots study and explain to Councillors their responsibilities and obligations.
- **Climate change discussion and presentations.** An exploration of councillors' perceptions of climate change, was followed by a group discussion. In addition, presentations were given introducing the topic of climate change and a summary of the latest evidence, as well as a short presentation on psychological perceptions of climate change.
- **Information session and discussion exploring local climate change risks and impacts.** Councillors were presented with information that was relevant to the exploration and assessment of climate change risks and impacts for their communities.
- **Information session and discussion of community engagement.** Councillors were given information and advice on community engagement issues.

Council Support Visits (throughout January 2014, at respective Council Offices):

Following the first workshop, each of the four Councils received a support visit from members of the project team, including their Mentor. The main aim of the support visit was to retain a *global* perspective, so as not to lose sight of the scale of climate change, whilst encouraging Councillors to also think more about *local* impacts. Councils were encouraged to invite other Councillors and other stakeholders with an interest in or relevance to the project. Support visits were held throughout January 2014 (beginning with Penarth on the 7th, followed by Tredegar on the 13th, Abergele on the 21st and ending with Llanelli on the 30th January). In order to try to optimise attendance, each support visit was scheduled in the evening, beginning at around 6.00pm and lasting approximately three hours (See Appendix 3 for the support visit programme).

Summary of support visit aims;

- **Explain and promote the Strong Roots Project to a wider local audience.**
- **Provide feedback on the Project Launch presentations and discussions.**
- **Prioritise climate change perceptions through an interactive exercise.**
- **Provide expert presentations on potential localised impacts of climate change.**
- **Explore the main climate change terms being used by the Project i.e. emergency, mitigation, adaptation and resilience.**
- **Map activities and work already being undertaken by the Councils and their partners in relation to emergency, mitigation, adaptation and resilience.**
- **Identify gaps in relation to emergency, mitigation, adaptation and resilience.**
- **Enable Councils and partners to detail these gaps and plan community engagement to tackle a specific gap in relation to climate change.**

Each support visit was tailored to the local council context, and included a presentation from a visiting climate change scientist to explain climate change issues at the global, national and local levels, focusing on issues specific to that Council. In addition, a range of practical exercises were conducted to encourage Councillors to start thinking about local issues, activities and community partners, in order to inform the climate change adaptation planning being developed. The main elements of each support visit were as follows:

- **Climate change related information sessions and activities.** Following on from the initial climate change perceptions exercise from the first workshop, Councillors completed an exercise in which they were presented with feedback from the open discussion of perceptions in workshop 1 and asked to indicate which statements from the discussion they most/least agreed with (see Appendix 5). In addition, Councillors were given a presentation by an academic from a nearby university summarising climate change issues at the global, national and local level.
- **Mapping local activities and issues exercise.** This substantial exercise was designed to get Councillors to think about the issues currently affecting their communities and any activities that were taking place. Councillors wrote these on post-it notes and displayed them by attaching them to large sheets before transferring them to templates (see Appendix 7).
- **Information session on community engagement guidelines.** Councillors were presented with Welsh Government guidance principles on community engagement.
- **Planning community engagement exercises.** Two exercises were designed to help councillors with planning their engagement projects; a 'Scenario exercise' in which councillors planned a specific community engagement activity, and a 'Scoping exercise' in which councillors identified potential community engagement opportunities within their own communities.

Workshop 2, (21st February 2014, Builth Wells):

The second workshop was held at the same venue as workshop 1 in Builth Wells, from 10.30am until 4.00pm on Friday 21 February 2014. As before, all four Councils came together at the venue. Whilst workshop 1's purpose had been to introduce Councillors to the project background, climate change issues and community engagement planning, workshop 2 was designed to build on this and to help prepare Councillors to develop their own climate change adaptation plans.

Workshop 2 represented the half-way point in the programme and gave an opportunity for the Councils to offer feedback on the support visits, reflect on their learning and thinking to date, and to have time to work with their Mentors and the Project Team in finalising their draft adaptation plans. A presentation on the Welsh Government's Climate Change Guidance supported by a facilitated group exercise briefed Councillors on how to use the Guidance in their own planning preparation.

Details of the second workshop can be found in Appendix 8, but is summarised below:

- **Review and feedback on the Support Visits.**
- **Presentation on Welsh Government Climate Change Guidance.** Councillors were given a summary of Welsh Government climate change guidance documentation and where they could be found, with a specific focus on '*investigating issues*'. Councillors were also asked to perform two exercises to assess community vulnerability and local risk issues.
- **Group exercise on how to use climate change guidance templates.**
- **Presentation on engagement tools, techniques and tips.** This session offered information on relevant considerations and methods prior to Councils engaging with their communities, as well as how to organise a

community engagement event. This was followed up by an exercise in which councillors were asked to reflect on a previous community engagement exercise.

- **An exercise designed to help Councillors reflect on their prior community engagement experiences.**
- **Review the Council's draft adaptation/resilience action plans.** A short presentation by Jim Poole of Natural Resources Wales emphasised the importance of climate change adaptation and resilience for communities across Wales. This was followed by a practical exercise in which each Council worked on their community engagement plans, with the assistance of their project Mentors (see Appendix 6 for details of the planning template structure).
- **Work with Project Mentors to finalise the action plans** (see Appendix 10 for the action plan briefing notes).
- **Share and discuss action plans.**

Workshop 3 (9th May 2014, Builth Wells):

The third event at Builth Wells reprised the format of the previous workshops and was held on Friday 9th May 2014 between 10.30am and 3.00pm. The meeting was seen as important for capturing learning, sharing Councils' action plans and the work they had undertaken, as well as reviewing and evaluating the project model and discussing recommendations and other points for inclusion in the Final Report, as well as next steps.

The detailed programme for the day can be found in Appendix 10. In summary, the day featured;

- **Timeline exercise to capture the learning from the Project.** This exercise was created in order to encourage Councillors to reflect on the project as a whole and what had been learned and how behaviour had changed. This was then fed back to the wider group (see Appendices 12-16).
- **Review of Councils' action plans and preparation of presentations.** Time was given to reviewing community engagement plans with project Mentors, followed by a Council-led presentation of plans to the wider group.
- **Planning future actions beyond the end of the Strong Roots Project:** Councillors considered their next steps in implementing their community engagement plans and plotted these on the project timeline.
- **Group debrief to review and evaluate the Strong Roots Project model:** This session summarised the Strong Roots project model, from theoretical beginnings stemming from Strong Roots 1, through the current pilot project with Councillors, to the point at which the four Councils revealed their community engagement plans and next steps. Councillors were consulted on what they would like to see happen next and asked for feedback on the pilot and its constituent parts.
- **Exploration of recommendations for inclusion in the Final Project Report.**
- **Presentation on future directions and opportunities.**
- **A final question and answer session.**

It should be noted that the running of the engagement programme coincided with one of the wettest winters on record, accompanied by extensive and prolonged flooding across the UK, cutting off communities and in some areas necessitating the evacuation of thousands of homes. Unsurprisingly, the weather at that time consciously influenced the thoughts and opinions of councillors participating in the project. A number of Councillors acknowledged the way in which the winter weather had noticeably raised the profile of climate change for them and their communities (see section 7.0 for evidence of this).

2.0 Social Research Methodology

2.1 Desk Research

The desk-based research segment of the project took place in order to form a foundation for the project based upon relevant knowledge from the academic literature. An academic citation index, '*Web of Science*' formed the main index for the search. It was chosen for its breadth of literature coverage, as it incorporated a wide range of social research databases across a number of different disciplines.

An additional literature search used 'Google Scholar' to sweep for other relevant academic and non-academic texts that would be of relevance and which were not cited in Web of Science.

The initial sweep of the literature using Web of Science and Google Scholar used a range of keyword searches comprising multiple iterations of basic terms such as '*community council*', '*climate change*', '*community engagement*' and so on. As subsequent searches began to repeat the same articles, this was taken as an indication that the majority of relevant articles had been captured from the database, and so a new search began.

A primary list of references was compiled, including the article abstracts. The primary citation list included over 700 articles. Judgements of the relevance of citations for the study were made by scanning abstracts and either retaining or discarding from the literature review on the basis of their relevance. The secondary list retained approximately 200 articles. Additional articles were also found from recommended articles suggested by search engines based on author, topic or articles citing an article. This boosted the reference list to around 350 articles.

A second, ore detailed sift was then performed on the revised citation list, this time judging the relevance of each article based upon scanning the article content as a whole, rather than just the content of the abstract. A summary of findings from the desk-based literature search can be found in section 3.0.

Figure 2: Penarth Support Visit



2.2 Focus Groups with Community and Town Councillors

To examine Councillors' perceptions, two rounds of focus group interviews were conducted with each of the four Councils. An initial phase of interviews took place prior to Councils embarking on the community engagement programme (in order to avoid as far as possible any potential influence from the engagement programme). A second phase of focus groups (gauging perceptions of the engagement programme and investigating whether Councillors had changed in their perceptions) took place between workshops 2 and 3.

Focus group interview methodology involves working with groups rather than individuals, which generates discussion based upon not just the interviewer's questions but on group interaction (Millward 2012). In comparison to one-to-one interviews, interviewing multiple participants who are free to interact with each other produces a dynamic social context that can offer a more 'naturalistic' type of social interaction and generate issues that are novel to the interviewer. In addition, focus group interviews are suited to investigating a wide variety of social issues (Morgan 2010). An additional reason for selecting focus groups was because the methodology could be used in combination with other methods of psychological enquiry, such as quantitative survey research (Morgan 2007, 1996), which also formed part of the social research methodology.

Community and Town Councils constitute readily-formed groups, without the need to bring participants together or construct interview groups artificially. The use of focus groups also enabled more Community and Town Councillors to discuss their perceptions than would have been achievable using one-to-one interviews, thereby making the most efficient use of time and resources.

A semi-structured methodological approach was used for each focus group interview. This allowed the interviewer on the one hand, to impose a structure by constructing a question order and gauging views on specific issues. On the other hand, there was also flexibility within the structure that allowed Councillors a degree of latitude to explore novel issues and to avoid imposing a rigid question-response structure that was dominated by the perspective of the interviewer.

In the first phase of focus group interviews, a number of different issues were covered, including:

- Perceptions of being a councillor.
- Local context and issues affecting the community.
- Local community character and meanings.
- Relationships between the council and the community.
- Perceptions of community engagement.
- Perceptions of climate change.

Phase 1 was conducted in late October and early November 2013, prior to any formal participation in the engagement programme. Arrangements were made with each Council to conduct interviews at the Council's offices, lasting between one and two hours. Each focus group interview was audio-recorded and transcribed for analysis. Following the focus group interview, Councillors were asked to complete a climate change perceptions survey (see section 6.0 below).

In the second phase of focus group interviews, different issues were explored including:

- General reflections of the engagement programme.
- Reflections on the workshops in Builth Wells.
- Reflections on the support visits.
- Progress made on engagement plans.
- Next steps beyond the engagement programme.

Phase 2 took place in late February and early May 2014, between workshops 2 and 3, which was around five months into the engagement programme. As before, interviews were conducted at each Council's premises. Each focus group interview lasted for a similar length of time as before, and audio-recorded and transcribed for analysis.

2.3 Perceptions of Climate Change Survey of Community and Town Councillors

The survey given to Councillors at the end of each focus group interview (offered in Welsh and English) was designed to elicit general perceptions of climate change (see Appendices 16 & 17 for the survey items). The purpose of this was to understand how Councillors perceived climate change prior to the engagement programme and to examine whether perceptions changed after participating in the engagement programme. A total of 26 surveys were completed in the first phase (Abergele: n=8, Penarth: n=6, Llanelli: n=6, Tredegar: n=5).

Surveys were administered again at the end of the second round of focus groups, between workshops 2 and 3. This time the number of surveys completed came to 22 (Abergele: n=7, Penarth: n=6, Llanelli: n=5, Tredegar: n=4).

The survey gauged opinions on issues including:

- General issues and challenges facing the community.
- Importance and extent of environmental issues facing the community.
- Knowledge about climate change.
- Concern about climate change.
- Climate change beliefs.

The survey used items from the survey used in the Strong Roots 1 project, comprising established and valid items taken from other academic climate change studies, including a recent large-scale survey of Welsh public groups and other academic studies (Capstick, Pidgeon & Whitehead 2013, Whitmarsh, Seyfang & O'Neill 2011). Quantitative survey analysis was conducted using Microsoft Excel.

Figure 3: Llanelli Support Visit



3.0 Literature Review Findings

To supplement and inform the development of the Strong Roots project, a desk research study was conducted to identify relevant knowledge from the academic literature.

The previous Strong Roots Report (Whitmarsh, Reis, Lazarus, Egan, Thomas & Nash 2013) had already highlighted factors that enabled and constrained Councils in relation to an expanded role, (e.g. deficits in local expertise and the need for training and resources respectively as constraining capacity (c.f. Borne 2010).

In searching and reviewing the academic literature, the following points have been condensed from the mass of articles retrieved, and which are considered relevant to the current Strong Roots project.

1. Research on general factors potentially affecting the capacity of Community and Town Councils to lead on climate change adaptation:

- At the level of local government, Councils are often constrained by a lack of local expertise, limited financial resources (Archie 2014, Baker, Peterson, Brown & McAlpine 2012), community apathy (Fudge & Peters 2009) and lack of political will to address climate change (Archie 2014).
- In relation to climate change knowledge specifically, studies have identified the need for provision of information and education, as well as help in translating and applying knowledge at the community level (Borne 2010, Moser & Lues 2008, Peterson, Brown & McAlpine 2012).
- Local knowledge does not always translate easily outside of a local context, as it is typically based on close connections to, and lived habitation of an area, which may not easily translate into knowledge that can inform policy at higher tiers of government (Anderson 2008).
- Community councils vary significantly in their size, activities and resources, which makes generalising about their future potential difficult (Woods, Edwards, Anderson, Gardner & Hughes 2002). Whilst community councils face limitations in their capacity, there is scope for increasing involvement based on their position as local experts, e.g. in consultative and advisory roles (Tewdwr-Jones 1998). Some surveys have found that a significant minority of Community Councils want to increase their responsibilities, though some smaller Councils are cautious about taking on additional functions (Woods et al 2002). Therefore, it is important that plans to increase Council responsibilities must attend to local differences (Robbins & Rowe 2010).
- Community-based knowledge (typically gathered through lived habitation of an area and casual empiricism) can differ qualitatively to more objective kinds of knowledge within higher tiers of government. This can create tensions; where local knowledge conveys emotional and community connections of individuals to places, this can be neglected or unacknowledged at higher levels of government (Anderson 2008).
- Important caveats when considering the potential role of Councils as local leaders on climate change adaptation include ensuring that community engagement facilitates meaningful debate, managing community expectations/aspirations and balancing the interests of minority groups with the broader needs of the community, region and the nation as a whole (Sturzaker 2011).
- Whilst Community and Town Councils may be able to reach proportions of their communities through environmental initiatives (typically those who are self-motivated and already engaged), reaching the wider community remains a significant challenge, in which support for climate change initiatives may be more varied (Peters, Fudge & Sinclair 2010).
- Diverse communities call for flexible initiatives to respond effectively to the needs of different groups. The challenge is to raise awareness and develop initiatives in order to motivate community participation. (Peters et al 2010).

- The relationship between local government and community can sometimes be problematic, which can undermine initiatives. Therefore, gaining community trust is an important issue that requires careful consideration (Fudge & Peters 2009).

2. Research supporting role of Community and Town Councils as leaders on climate change adaptation:

- There is evidence for the efficacy of local community initiatives in addressing climate change challenges (Preston, White, Lloyd-Price & Anderson 2009, Shaw 2012). The authors summarise a range of case studies across different environmental behaviours (e.g. energy use, transport, recycling, food) that have resulted in significant physical (e.g. reducing carbon emissions) and social change (e.g. normalising discussion of climate change issues amongst community members) (see also Feola & Nunes 2014 and Middlemiss 2010).
- The existence of a sense of community can serve to enhance initiatives, as those who feel a part of a group and part of the decision-making process are more likely to co-operate in environmental decision-making (Center for Environmental Decisions 2009).
- Local initiatives aimed at engendering pro-environmental change tend to be more successful than larger-scale initiatives because they are better able to craft solutions that are tailored to the context specific to that place (Middlemiss & Parrish 2010).
- Local government is commonly more familiar with the local area than higher tiers of government (Amundsen, Berglund & Westkog 2010, Archie, Milford & Pampel 2014). Local government may therefore be particularly knowledgeable in the context of place-based vulnerability and could therefore fulfil an important role in leading on climate change adaptation (Measham, Preston, Smith, Brooke, Gorddard, Withycombe & Morrison (2011).
- Climate change adaptation depends to a significant degree on harnessing community social capital and Community Councils are particularly well suited as a mobilising force for community social capital (Adger 2010).
- Involving Community Councils on climate change adaptation could facilitate dialogue and mediate relationships between government and community because of the position of Community Councils at the interface between the two (Sturzaker 2011, Middlemiss & Parrish 2010).
- Individuals are more likely to listen to and trust those from within their community rather than those from higher levels of government. Community Councillors could play an important element in building and maintaining community trust to facilitate engagement (Preston et al 2009).
- Building community resilience necessitates collaboration between government and local community initiatives; local government requires input from communities, and community initiatives require support from Councils (Ennis 2013).

3. Research relating to perceptions of climate change adaptation relative to mitigation:

- Whilst climate change *adaptation* has traditionally received less attention than *mitigation*, evidence suggests that scientists and decision-makers are now devoting significant consideration to adaptation, in the realisation that some climate change impacts are unavoidable even if carbon emissions reductions targets are achieved (Björnberg & Hansson 2011, Biesbroek, Klosterman, Termeer & Kabat 2013, Wilson 2006). However, there is little evidence of climate change initiatives filtering through to the level of local government (Tompkins, Adger, Boyd, Nicholson-Cole & Arnell 2010).
- Whilst climate change is an issue that is global in nature, building capacity for action at the local level (where issues are more meaningful to decision-makers and individuals) may succeed where more regional/national

strategies have not (Shaw, Sheppard, Burch, Flanders, Wiek, Carmichael, Robinson & Cohen 2009, Björnberg & Hansson 2011).

- A recent survey of climate change perceptions of Welsh public (Capstick, Whitehead & Pidgeon 2013) examined perceptions of climate change adaptation, finding the following:
 - The Welsh public sample expressed a general preference for climate change mitigation over adaptation.
 - Whilst most considered that adaptation should *only* occur *alongside* mitigation, there is not a strong sense that adaptation is seen in itself as undermining mitigation.
 - Whilst flooding was the main priority for the majority, other climate related issues (e.g. heat illness) were considered to be low priority in comparison.
 - The responsibility for adaptation was viewed by most people as being at the national/UK Government level, however, a significant minority perceived the local authority as responsible.

4. Articles detailing the complexity and contextual nature of climate change perceptions and the need to consider these carefully prior to engagement with audiences:

- A recent study challenges the idea that the Welsh public are not engaged with climate change because it is not viewed as relevant to their daily lives (Capstick et al 2013). However, a variety of individual psychological factors may still affect engagement with climate change-related information and behaviour change (Lorenzoni, Nicholson-Cole & Whitmarsh 2007, Gifford, 2011).
- Individuals differ in their receptiveness to, and engagement with climate change messages on the basis of content and context (Ockwell, Whitmarsh & O'Neill 2009). E.g. some studies have found that engagement with climate change messages can depend on the emotional content of the message (O'Neill & Nicholson-Cole 2009, use of specific terms (such as 'global warming' and 'climate change') (Whitmarsh 2009, Schuldt 2011) and the scale (global/local) used to frame the issue of climate change (Scannell & Gifford 2013).
- Individuals do not respond to climate change messages uniformly; rather, mental models (based on incomplete facts, cognitive biases and casual perceptions) filter information so it is perceived in different ways and filtered according to preconceptions and biases that attend to information that is consistent with existing attitudes, whilst neglecting information that challenges existing attitudes (Center for Environmental Decision Making 2009).
- Scientific data is not easily translated into concrete experience and this can affect engagement with climate change for individuals from non-scientific backgrounds. For example, the Keeling Curve (predicting future levels of atmospheric CO₂) can be interpreted in ways that undermine urgency (Center for Climate Decision Making 2009). Therefore, it is important to frame issues in ways that are understandable and accessible to different audiences.

4.0 Outputs – The Climate Change Adaptation Response

The summaries below are the practical, tangible outputs of the engagement programme – this is what the councils did when asked to develop their engagement plans. In the following section we start to present the findings of the behaviour change research – the psychological and behavioural journey that led to the production of these tangible outputs:

Tredegar Town Council

“We didn’t know what we were getting ourselves into. In six months we’ve achieved a lot – a mini revolution.”

Councillors in Tredegar have taken the guidance we had provided and blended it with Welsh Government guidance on climate change adaptation to produce an interactive register of risks and responses. This is called “Tredegar Live” because it is a live document that will be publicly available online and in hard copy. It will be updated according to progress. Each risk is identified, given a reference code, assessed for severity and the relevant vulnerability theme identified such as “older people”. The risk is associated with a remedial action and the action is given an owner which could be the Town Council, the voluntary sector or other statutory bodies. Action is given a timescale and progress is documented.

Abergele Town Council

“If you’d used the term Global Warming it would have turned us off. Climate Change was a much more useful term. The winter storms and floods showed that rich people on the Thames as well as ordinary folk on the North Wales coast could be affected.”

Abergele have taken the concept of climate change adaptation and integrated it into current practice and budget planning. Past floods have prompted a network of flood wardens who were coincidental to any consideration of climate change adaptation but from now on will be an integral part of the adaptation/emergency plan. They have plans to install solar panels on the town hall and to work with Cartrefi Conwy on a hydro-power scheme. Any action/expenditure undertaken with respect to this will now be identified as climate change adaptation and mitigation. They will encourage a greater level of local food production and be clear that this is to increase “food security”. In their input to the LDP, they will now argue for new housing developments to be positioned to make maximum use of incident solar radiation (south facing roofs) as well as the minimisation of concrete/hard standing in gardens and greater use of soak-aways and grass, and more foot paths to encourage walking. They aim to work closely with local schools on raising awareness of adaption measures. They are in the process of publishing these plans and articulating it as climate change adaptation and will seek the views of the community.

Llanelli Town Council

Llanelli were already engaging with Carmarthenshire County Council and the Cynefin Project¹ when the project started.

They are taking a ward-based approach rather than action to address the whole town. In each ward they will build on local contacts with businesses and schools. There will be ‘ward champions’ to lead on resilience, identifying who is the most vulnerable to climate related events and other emergencies with an understanding that vulnerability can change from day to day. Community centres will be identified as evacuation centres. There will be central

¹ The Cynefin Project is a Welsh Government initiative currently operating in nine communities across Wales, working to bring together individuals, groups, businesses and organisations to improve the places in which they are situated.

information points and skills and resources in the community identified and registered. Information on an emergency response will be sent out with information on council tax, tying the two things together (and making use of a pre-existing commitment to postage costs!). They aim to improve sign up rates for flood watch and NRW schemes.

The Council will challenge house building plans and housing design. They see this project as a platform to start a wider conversation with residents and local businesses and to gather relevant info. The council owns some major built assets and these will be managed with a view to climate change adaptation and mitigation. They are aiming for a local conference in July 2014 with a window of activity from July to October. By September they aim to have produced the first draft of a community emergency plan, and an emergency incident room scenario exercise with Carmarthenshire County Council by the end of October 2014.

Penarth Town Council

"We were already doing a lot of sustainable development stuff before this project came along."

Councillors in Penarth have been committed to developing sustainability-related projects (e.g. the 'Green Audit') for some time. They have identified a number of knowledgeable and committed people willing to volunteer in their community and to seize upon the sizeable levels of social capital amongst residents. Their response to the Strong Roots engagement programme focuses on biodiversity on a particular site in the town, known as the Kymin. The action they take on measuring the current state of biodiversity on the site will be used as a pilot project to develop a methodological template. This will integrate into the emerging town plan. It will require partnership with the voluntary sector and Vale of Glamorgan County Council. Once the template is refined, it can be used to address climate change adaptation at other sites and for other issues.

Figure 4: Tredegar Support Visit



5.0 Results of the Behaviour Change Research

5.1 Focus Group Sample and Method

The point of the first phase of focus group interviews was to generate a sense of context for each Council, rather than focusing questions too narrowly, before moving on to discuss the issue of climate change more generally. Participants comprised Councillors from each of the four areas who had been elected as representatives on the project. No further sampling strategy was used; all representative Councillors were invited to attend to discuss their views.

Demographically, the initial round of surveys comprised a sample of 26 Councillors, which was 61% male, with the majority of councillors tending to be older and retired (4% aged 16-24, 11% 25-44, 31% 45-64, 54% 65+). Councillors also tended to have spent more time in formal education (11% educated up to GCSE/O-Level, 15% A-Level, 31% Degree level, 38% Postgraduate level).

5.2 Focus Group Results (Phase 1)

Reasons for Becoming a Councillor

To open up discussion and to get a sense of local context, participants were asked a little about their experiences as Councillors. An initial question sought to understand *why* they had decided to become councillors.

Across all four Councils, the principal reasons given for becoming a Councillor were connected to a felt sense of wanting to repay something back to the community that they valued, especially for those who had been born and raised in the place they represented:

L7: I think most of us would say we're doing it because we want to put back what we've already received I think, most of us, not all of us but some of us.

L1: I think that's really yeah. No, but it sums it up because we all feel that we need, I'm from a teaching background, I look towards the youth. You do as well (L7). We all do. (L3) does. And also being part of having been born, brought up and living in this community, you treasure it. And so you want to give back something. (Llanelli).

In addition to feeling a motivation to work for the communities they value, a sense of looking forward 'to the youth' and wanting to improve the town for future generations was also prevalent in many instances of this type of utterance.

Underlining the exploitable wealth of skills and experience of community and town councillors was also key to becoming a councillor. Some of the older councillors in particular felt that they did not want their knowledge and expertise to go to waste after retirement, therefore, becoming a councillor was a way of ensuring that the community would benefit:

Q: So were you approached to become a Councillor?

P1: No I've always been involved. Yeah, I was approached to become a councillor but I've always been involved in, without y'know working with government quangos you couldn't get that involved in the community. What I was particularly interested in was, well once you've retired you've got these skills, they decline quite quickly but one year on it's quite easy to pass them on and use them hopefully for some form of good really. (Penarth).

In one or two of the councils, there was an emotional reaction and frustration expressed at the solidarity and motivation of Councillors to improve place and some of the decisions currently being made that were storing up problems for the future:

L1: ...you want to make it a decent place to live in for the future. I mean, I want to cry when you see some of the mistakes that are being made now which won't come into fruition for a few years down the road. So we need to look after and guard what we've got. I think we all feel the same. (Llanelli).

Councillors, being rooted in their communities, tended to judge local decision-making in terms of impacts on the quality of life and wellbeing of the community who live there, suggesting that they are locally grounded and focused on the more practical consequences of decision-making within their communities.

Experiences of Being a Councillor

When asked about what it was like to be a town or community councillor, responses were fairly mixed. Whilst there was a great deal of satisfaction to be gained from serving the community and enjoyment when things were going well, at other times there was a somewhat burdensome sense of expectation from the community, as well as being scapegoated for things that were seen as being wrong in the town. This was not helped by a perception in the community that Councillors held a position of authority, which was in reality inaccurate and counterproductive:

Q: ...What, first of all, what's it like to be a Councillor here? What are your experiences and thoughts?

T1: I suppose at the one end there's enormous pride with the heritage of the town and at the other end you tend to get the blame for absolutely everything all over the town even though you may know very little at all (laughs). (Tredegar).

A felt sense of community expectation and the reality of Councillors' abilities to address community issues sometimes led to feelings of frustration. A chief reason for this was because whilst Community and Town Councillors were closest to community issues they felt a lack of political power to actually do anything about them. Instead, powers were sometimes viewed as residing at higher tiers of government, which frustrated the ambition of Community Councillors to get anything done:

A7: Yeah we get very frustrated on the Town Council because we've got no powers as such. All the power lies up in Conwy. They're very very slow in their decision making. They won't support us, they won't support us in lots of things. We have to keep beating the drum until such time as they take note, they wake up and take notice. (Abergele).

Despite sometimes feeling disempowered as advocates for their communities, Town and Community Councillors considered that the local community harboured a mine of local expertise and knowledge that could be used exploited by higher tiers of government. However, the reality of decision-making in some instances was that local knowledge was not used effectively, and decisions were imposed, leading to poorer outcomes for the community:

A4: I think folk in the town probably know the town council better than the county council. That's very true I think

A1: ...I suppose, what is it, six out of fifty seven?

A7: Fifty nine

A1: Fifty nine. They're in a minority from the town's point of view. But the townspeople, they certainly have a wealth of information about the town, which could be utilised by the county council and other agencies, to help them in their work. But they don't want to do that... Their interpretation of consultation is sending you a letter and saying, this is what we are going to do, and whether you agree with it or not is another thing. (Abergele).

Perceptions of the Local Context and Issues

Councillors were asked about the main issues currently facing the community in order to get a sense of what was important, and to investigate whether issues to do with climate change and environment were salient issues for the Council or Community.

Local context and main issues as they were spoken of, were fairly unique across all four Councils. For example, Abergele was described as a place with a strong identity, history and heritage that was important to some in the town, but that these valued qualities of place were being seriously eroded by in-migration and urban expansion. Hence, there was concern about these qualities being lost:

Q: ... I just wanted to get a flavour of what's special to you about Abergele

A3: There's the history and there's the heritage isn't there?

A7: As the town gets bigger the history is diluted...

A3: Exactly

A7: ...less people know about it. As the town is getting bigger more people are coming in and they don't know about the history of the area and it's slowly over generations being diluted. And when they build these eight hundred houses they want to build it'll be even more diluted. (Abergele).

In Llanelli, the main issue concerned the decline of the town from a vital, energetic industrial powerhouse in West Wales, to a post-industrial place that had lost its main industry and was searching for a new sense of identity, purpose and direction:

L1: Llanelli was a very vibrant town. It's the, almost the end of the industrial corridor, y'know, which comes from Cardiff right down through Bridgend to Swansea. We get the crumbs when you come to Llanelli. But we are the end really of that industrial...after that it is rural Wales. It is West Wales with a vengeance. So we were a steel town. We are called 'Tinopolis' because we had so many steelworks. But heavy industry has gone and it's knocked the stuffing out of the town to a certain extent. (Llanelli).

In a similar fashion, councillors in Tredegar also perceived their town to be in a state of post-industrial economic decline, where one of the main problems was employment and poverty within the community:

T4: ...Well obviously, the government...you spoke about the government changes. Because it's an area of high unemployment...low wages, so obviously government changes are going to affect this area quite a bit. And we're seeing something we've never seen, or I've never seen, basically which is the introduction of food parcels which seem to be increasing isn't it?

T1: Food banks, yeah...But the stories that people are coming up with...not coming up with. The stories that are being heard by the people in the food banks...how desperate it was. It's frightening. A lady last week had forty-seven pounds to pay for all her bills for two weeks, forty seven pounds a fortnight. That includes heating, food and all the other things (Tredegar).

Meanwhile, whilst Penarth Councillors expressed a degree of optimism about their town and a sense that it was a prosperous place that was 'on the up', it also had its own issues to deal with. Some of these were felt to be common to most Councils, but there were also difficulties, including negotiating the town's identity as a 'coastal satellite' of the capital just a few miles away on the other side of Cardiff Bay:

Q: You mentioned some challenges as well. Can I ask you to...

P3: Well yes I mean it's the obvious things that communities will always throw up which is we haven't got sufficient parking. There's issues with the infrastructure. The town centre isn't attractive enough. So we're all aware of those and hopefully y'know we can now start addressing them with others and move forward and move on with them

P1: ...What I think is that we're not economically self-sufficient so this, the idea of community tends to fall down slightly. We couldn't be absolutely self-sufficient. Quite a lot of middle management, top management and a lot of Cardiff University people live here and commute out and...

P4: Yes

P1: ...a lot of businesses people commute out so we're not, we have that economic issue and have to define a relationship with Cardiff in terms of y'know being their coastal outlet really which is favoured really because of the politics of the matter really'. (**Penarth**).

Regardless of the various issues that were affecting councils and their communities, all four councils acknowledged and praised levels of social capital and enthusiasm on the part of local people to act voluntarily on behalf of their communities:

P5: Penarth is a surprising town in a lot of ways, particularly in terms of the number of people who are involved in voluntary ways in all sorts of clubs, associations, societies, charities. There's masses of stuff going on. It's a bit like the old swan thing where everything's going like crazy underneath. And that describes Penarth. It wasn't really until I got elected and sort of started meeting all these people that I realised quite the scale of what was going on. The social capital that (P1) referred to is huge in this town. (**Penarth**).

This was not only the case in more affluent communities such as Penarth, but was also abundant in areas that were more economically challenged such as Tredegar, in which there existed a 'Spirit of the Valleys' that rallied people in times of need:

T1: Yeah, clubs and associations supporting cultural, creative, self-help groups. There's lots of...loads of groups are based in Tredegar that serve a wider area. And that has always been the case. I think the people of Tredegar have always got up and helped themselves

Q: That's a quality of the people that live here?

T1: Mm. And I think we stand up for our town. Y'know, like, I think there is a bit of a reputation about Tredegar people standing up and fighting rather than sitting down and letting...

T5: Yeah, I think that...well, of the Valleys generally. Do you know what I mean? If anything disaster happens or anything, they seem to come together quicker than any other community I suspect. And we've had a few in the Valleys over the years, like the Aberfan and so forth and...yeah, that's the time that they all come together don't they? (**Tredegar**).

Perceptions of Local Environmental Issues

Whilst councillors spoke mainly of economic and social issues in relation to their towns, issues to do with the local environment were sometimes also mentioned, though less often, and were bound up in place. In Llanelli and Tredegar there was emphasis on positive environmental transformation; the towns had emerged from their industrial pasts and were greener and more pleasant place to live now that the steelworks, factories or pit heads were gone:

Q: Can you tell me a bit about how things were and how they've changed?

T5: Well we were, thirty years ago we were slag tips...Now we've got nice green fields

T4: Black...Black rivers

T5: Yeah, black rivers. Well, red rivers down in the Ebbw Valley. Black rivers over here. Because they had a steelmaking plant in Ebbw Vale. And that river down there was red

T4: So yeah...it has come on a great...in leaps and bounds

T5: Yeah, yeah. We can't really grumble can we?

T1: No, the cleanliness of our rivers are fine now aren't they?

T5: Yeah that's right because we went on...out on a tour with the environmental people the other...a few weeks ago. And we've actually got salmon coming up the rivers. (**Tredegar**).

For these Councils, environmental issues tended to be overshadowed by other community concerns, although sometimes environmental issues did arise spontaneously, typically in relation to flooding. In Abergele, some Councillors explained that while flooding was not a regular event, it had happened in the past and could happen again in future if existing problems were not addressed and if people did not work with nature (e.g. by re-routing water courses). There was also frustration expressed at the lack of action by organisations agencies that were perceived to be refusing their requests for assistance. As above, some Councillors felt that they were being ignored local decisions had been taken were out of the hands of the council and made elsewhere by officials who were located elsewhere and unaware of environmental conditions in Abergele:

A4: *But the big thing for Abergele I suppose is that the River Gele which is the river that goes through the town, has been diverted to the River Clwyd. So the question is, should we be sort of trying to redirect nature in many respects? It used to go to the sea in Pensarn. So if there is a big flood or a crisis the river will find its traditional route and this is what happened in 1970.*

A5: *If our river went in a straight line as it passes where I live it would help. But it can't because it's in a concrete trough. And the concrete trough is breaking up. The last time I went to a meeting on site with the so called Environment Agency...Immediately I got to the major extent of the damage and the mess, they said they weren't putting any more money in it...So what's that going to do for the town? If that gets out to the people of the town, in the crisis situation we're going to have to watch out, all of us, cos somebody somewhere isn't listening. It's not us, it's nobody here. It's not the county councillors, it's not the community councillors, it's down there. Somebody down there doesn't go further than Colwyn Bay in his life. (Abergele).*

Perceptions of the Causes of Climate Change

After discussing a range of issues to do with local issues, the latter part of each focus group was devoted to a general discussion of climate change perceptions in order to get a sense of the ways in which councillors understood the phenomenon.

An overarching finding was that Town and Community Councillors generally accepted the science that the climate was unquestionably changing. However, there were also differences noted when asked about the perceived causes of climate change within Councils. For example, some Councillors were convinced and had been committed to the belief that climate change was being caused by industrial emissions for a long period of time:

L5: *...I retired from my job a while ago but now I'm state pension age and, I will say this. At school, and I am now going back almost exactly fifty years...we were aware of industrial carbon dioxide having been mooted at that time back in the early 1900s by I think Arrhenius, a Swedish scientist as being a likely cause in the future...And that was further reinforced, we had a visit from an American academic coming from somewhere like Berkeley and he was saying that whatever you hear, the most likely outcome of industrialisation is a warming of the planet. So I have literally been a believer in climate change, reinforced over the years, but I've been a believer that it was possible, probable and now certain. And as a result I'm very set on finding solutions to it, at a local level obviously cos I'm only a local councillor and I hope we can have some success in that area. (Llanelli).*

A more common response to the perceived causes of climate change was to view climate change as a combination of industrial emissions and, often to a slightly greater degree, natural climate cycles of the earth that were being stressed by human actions, whilst being chaotic and complex:

P6: *There is, I mean there's certainly a climate cycle. But at the moment it's being pushed harder by what we're doing and being pushed harder into being quite destructive from our point of view. Well, but yes people always say oh there's always a cycle, this always happens, this always happens are partially right. There is, in the same way as there is a cycle with El Nino and all that stuff which can affect us up here and La Nina and all*

that, which again have effects on our weather even though it's the other side. It's the butterfly flapping its wings in the Amazon. (Penarth).

At the other end of the spectrum, there were one or two voices who were more sceptical and who contested the idea that human factors were implicated as a cause of climate change. Instead they tended to argue that climate change was a wholly natural phenomenon that had been occurring over a long period of history, and that this view could be scientifically supported by examining evidence for climatic shifts in the very bedrock of the earth, effectively 'written in stone':

A5: *Well these are some of the things I'm deep into, is the climate changing or is it a section of things that happen so many hundred years, so many thousand years or whatever to the earth?...*

A1: *I'm fairly convinced myself that so called climate change is a natural phenomena. And you can trace it back hundreds, even thousands of years. And it shows in the different rock structures, in geology and it's nature taking its course (Abergele).*

As with the issue of re-routing the River Gele in the town, there is the notion that one cannot go against nature, and that climate change is inevitable. These positions illustrate the considerable variation in climate change perceptions held by Councillors, and the need for individuals to be mindful of conflicts between their own and other perspectives. It should be added that conflicting positions on causality were not necessarily predictive of a need to address climate change (or not). This is demonstrated in the general concern measured in the accompanying climate change survey (see section 6.1) However, there is a danger that a lack of sensitivity towards nuanced positions may disengage some people from the process, therefore careful framing (e.g. focusing on impacts rather than causes) may be advantageous.

Contesting the Evidence for Climate Change

Councillors based their climate change perceptions on different types of evidence, As the previous extract shows, some Councillors asserted their positions based on scientific theory (e.g. see the first extract from section 5.6 above). However, for the most part, Councillors based their positions with reference to casual empiricism, e.g. observable changes, chiefly in weather patterns or other environmental indicators that were often bound to place. Whilst climate change science is based upon long-term climate trends, more experiential evidence was cited to contest the reality of climate change. Advocates on opposing sides were adept at rhetorically utilising the same types of strategy and justifying their arguments based upon conflicting interpretations of personal experience:

L2: *...We have the evidence in front of our eyes that, it's now nearly November and it's a beautiful day outside. I can recall October being a month so drab, damp, hardly any sunshine, glad to see the clocks going back because it gave you a bit more light. Cold, and then November became a different cold. Winter cold, crisp cold, instead of the damp cold. Even y'know, you've still got hedgehogs...hedgehogs are still out...*

L6: *Yeah and the plants are all blooming and the birds are building nests*

L2: *...the plants...and there's birds. Yeah there's actually crows I noticed where I live, there's crows that have got a nest, and they nest every year in the same place. They've begun to take twigs...y'know, what's going on?*

L6: *I've got primroses in the garden which normally, y'know, that's a spring flower. (Llanelli).*

Councillors who were more sceptical about climate change also corroborated their claims with recourse to their experience of changing weather patterns. While proponents of climate change based their justifications on a shift from a past that was stable and predictable to a future that was chaotic and unpredictable, sceptics reasoned that conditions had always been in fluctuation, therefore it was incorrect to see conditions as changing in this way:

T1: *I think the weather, people talk about the weather all the time. They moan that the summers aren't what they used to be, the rain is getting heavier y'know? And if that was down to climate change...*

T4: *But then we had the summer we had this year isn't it?*

T1: *It wasn't a long dry one though was it?*

T4: *No, but it seems to be...*

T1: *It was better than the previous year. (Tredegar).*

Contesting the reality of climate predictions also relied on strategies that drew on anecdotal evidence from historical weather. As above, this type of warrant was not confined to one side or another. For proponents of climate change, isolated incidents of historical weather conditions were used to argue that the climate was changing in an unprecedented way and had warmed over the last couple of centuries:

A4: *I think some sort of a change is taking place. We've not seen the Thames or Mersey freeze over at all, but it has frozen over, they both have...*

A7: *Many years ago*

A4: *...in the nineteenth century. So I know you can see pictures of fairs held on the River Thames...*

Q: *Mm the frost fairs*

A4: *...y'know, this type of thing. But we haven't had this in the twentieth century at all*

Q: *So...*

A4: *So there are changes taking place. (Abergele).*

Conversely, historical examples were also used to warrant scepticism towards climate change predictions. In this type of example, Councillors argued that the planet's warming climate was not unprecedented. Rather, it had occurred before, in accordance with natural cycles; the latest climate trends were simply repeating natural cycles of climate warming and cooling:

Q: *So, things are changing then, coming back, and you said something about hotter summers did you?*

A1: *Yes. Well, if you go back into history to the times of the Romans, I mean, the Romans were planting vineyards right up in the North on the Scottish Borders. That doesn't happen now. We've still got vineyards down in Shrewsbury. So there's obviously been a warming but I think it's a natural phenomena*

A6: *Yeah. It goes up and down (Abergele).*

Councillors spent some time discussing the degree to which the climate was changing and what they thought was happening (and upon which strategies such as the above were based). However, one or two councillors did acknowledge the counter-intuitive idea that climate change might also result in *cooler temperatures* in certain parts of the world:

P6: *...One of these things, if the jet stream shifts because of the change in temperature it could drive it further south which means...the gulf stream rather could be driven further south which means we wouldn't get the warming effect of that which means we'd actually end up net colder...(Penarth).*

Perceptions of Climate Change Actions

When speaking about taking action to address climate change, a primary obstacle could be traced to a perception of a lack of equality on a global scale. Whilst Councillors saw Wales as 'doing its bit', other, and often much larger industrialising nations were ignoring any responsibility for addressing climate change, and freeriding on the marathon efforts being made by countries like Wales, which would only prove to be futile:

A7: *This little country of ours is bending over backwards to...all this Rio stuff and yeah. And we're closing this down and closing that down. But they're opening a coal fired power station a week in China. So what good is that? It's just totally, to my mind, ridiculous that this little country is doing that, busting a gut to do it and they're totally ignoring it*

A6: Then you fell the rainforests and we get that effect as well added to it

A7: Yeah. I mean, to my mind this government and the European government they're just silly enforcing all these regulations on us

A4: Although I've got to say it's better for our health isn't it?

A7: Oh yeah, no it's not is it because the other countries those big countries, Brazil, Russia, India and China they're absolutely powering ahead with their power stations and they're belching out...look at Peking you can't even walk around the streets without a mask on. (**Abergele**).

Less common was the opposing idea that whilst humanity might have already passed the point of no return (thereby acknowledging the bleak forecasts for the planet's future), rather than despairing and doing nothing, there was still a reason to make the effort to address climate change. A willingness to act could set a good example to others, sending out ripples that would eventually cause a shift in behaviour as nations realised that their current modes of existence were unsustainable in the long-term:

L5: ...a while back (L7), in a meeting I said, I think we've just gone past the tipping point. We've had our chips basically as a species. We're into a pretty bleak looking future, a dystopia...(L7) said to me, he said, yes it's possibly true. And he also said, there's no point in stopping even if you think, or you guess yourself, cos I mean I'm not a true climate scientist or anything like. But even if you guess that things have passed the, quote, tipping point, you should still try and make the effort and if you set a good enough example, if we set a good enough example in Llanelli town, others may follow. If we set a good enough example in Carmarthenshire, others may, or unitary authorities, others may follow. If we set a good enough example in Wales, which the Welsh Government is attempting to do, others will follow. If the UK does it, so much the better. And finally, if Europe does it, eventually it'll dawn upon the Americans and the Indians and the Indonesians and the Chinese, that if they're going to have the huge populations that they've got living in some kind of comfort, they will have to pursue the same kind of sustainability and the same ecological and climatological awareness that we've started. So, baby steps. Eat a bit of the elephant a time and off we go...as they say...(laughs)

L6: We'll start on the trunk (laughs)

ALL: (general laughter). (**Llanelli**).

Further to the above, for some councillors, the term climate change was linked to a global phenomenon that was too large and amorphous for most people to comprehend. For example, the effects of climate change occurring in far-flung corners of the world were viewed as lacking meaning for most people and would therefore fail to raise the necessary concern to drive action because climate change was something that happened far away in some other part of the world. Conversely, it was reasoned that immediate, local impacts were more meaningful for people and it was reasoned that climate change needed to be framed as a local issue for it to raise people's awareness and motivate them to take action:

L4: ...I hate the term climate change, because what does it mean?...

L1: Exactly

L4: For people in the street, who cares? If the sea goes up two centimetres who cares? I do care about the people in the Maldives or Bangladesh...

L1: Yeah

L4: ...but if that is a consequence of climate change well...ok...that's it. The other consequences I think are much more here and now, and there's no question about it. The hay meadows have disappeared...

L1: Yes

L4: ...the number of bees has disappeared. The songbirds are disappearing. That's happening and people recognise that...A very real consequence of probably global climate change. But it's taking it too far from people...

L5: Ok. It divorces the, quote, man in the street, if there is such a thing, or the person in the street from, from taking action from considering the immediate circumstances, which this project aims to remedy. (**Llanelli**).

Knowledge About Climate Change

When councillors were asked about how much they thought they knew about climate change, nearly all responded to the effect that their understanding was fairly limited. None of the councillors participating in the study claimed to have a significantly high level of knowledge, nor any substantial background in climate change related work, indicating that they were not climate change experts. Councillors generally tended not to seek out information on climate change but gained what knowledge they had from mainstream media sources:

Q: How would you rate your knowledge of climate change?

P5: How would you what sorry?

Q: How would you rate your knowledge?

P3: Very limited

P5: Rate the knowledge?

Q: Yeah are you, would you consider yourself...

P6: On a personal level

P3: Limited. Just what I hear on the news and read in the papers

Q: Ok. That's where you tend to hear about climate change issues?

P6: Yeah, that's where we all get our information but...well where I get my information from. I don't go out of my way to find it but I kind of, I mean...my first degree was psychology but I also did physiology and zoology as part of the degree, so I've got kind of a scientific mind-set. So I kind of think that I have a better scientific understanding than perhaps the lay, sort of general population. But only marginally better. (Penarth).

Discussion of climate change knowledge and the divisive nature of the issue invariably led to evaluation over which side possessed the more correct knowledge and insights. For some, there was a sense that the issue of climate change was inextricably political and that people were left to make their own judgements about climate change with only biased information coming from each side. This implied that the truth lay somewhere in the middle:

T7: We are, in one respect we are brainwashed. You have to be for it or against it. We are brainwashed either by Greenpeace or by the power companies and things like that. And you take, you pick what you want out of that. We're not informed on a massive scale

T1: No, it's a lack of information. (Tredegar).

In summary, Councillors' climate change perceptions were complex and grounded in both the local (e.g. in terms of experiencing climate change) and the global (e.g. when contesting reasons for taking action to address climate change in light of the behaviour of other nations). In addition, there were significant differences in views that led to differences in terms of the causes of climate change, what could be concluded from the available evidence and the credibility of information sources. The focus group interviews therefore highlight a number of relevant issues for climate change communications.

Figure 5: Workshop 3



6.0 Climate Change Survey

Following each focus group interview, Councillors were asked to complete a survey measuring their general perceptions of climate change. Councillors completed the same survey during phase 1 and phase 2, which allowed the comparison of responses before and during the engagement (approximately five months later). Surveys were provided in both Welsh and English; all Councillors opted to complete the English language version.

6.1 Climate Change Survey Results

Issues Facing the Community

Table 2 overleaf summarises the variety and frequency of Councillors' responses before the start of the programme and then approximately 5 months in.

Prior to engaging with the programme, the issue of flooding was clearly the most common response, followed by coastal erosion (perhaps unsurprising as three out of the four Councils were situated in coastal areas). Environmental issues also feature strongly, indicating a heightened environmental awareness. However, climate change itself was only cited once. Whilst a range of issues relating to development, fuel poverty and economic conditions were also cited, these were less frequently mentioned. A reason for this may be due to the context in which the survey was completed, where Councillors were aware of the environmental underpinnings of the project.

During the programme, in contrast to flooding, the environmental impact of climate change was given most frequently as one of the main issues facing the community, followed by the need to create cohesive communities. This appears to reflect a heightened awareness of the two main issues underpinning the Strong Roots project, suggesting that the intervention has raised awareness significantly. This also suggests that Councillors perceive issues such as flooding as an element of climate change, and there is also some acknowledgement of the economic impacts of climate change for communities.

Table 2. What do you see as being the main issues or challenges facing your community over the coming years? (before and during intervention)

Community Issue	Frequency	
	Before intervention	During intervention
Flooding	10	1
Coastal erosion	5	0
Extreme/unpredictable weather	3	0
Air pollution	3	0
Environmental impacts of climate change (general)	0	5
Fuel poverty	2	3
Over-development	2	1
Creating cohesive communities	0	4
Community impacts on future generations	0	1
Loss of green areas	0	1
Reduction of local services due to budget cuts	2	1
Economy (general)	2	0
Loss of community identity	0	2
Land erosion	2	0
Sea-level rise	1	0
Sea defences	0	1
Welfare reform	0	2
Traffic congestion	1	0
Highway maintenance	1	0
Climate change	1	0
Water pollution	1	0
Energy security	1	1
Food prices	1	1
Lack of awareness/education about local issues	1	0
Reducing waste	1	0
Being proactive on local issues	1	0
Population increase	0	1
Economic impacts of climate change (general)	0	2

Participants were then asked about the importance of a range of environmental issues in relation to their communities. Figures 6 and 7 overleaf show that prior to the programme, climate change itself was not perceived to be quite as important as some of its associated impacts, such as flooding and sea-level rise. Whilst the issues of flooding and sea-level rise were also commonly seen as some of the most important environmental issues facing communities, the importance of climate change was viewed to be of higher importance than in the first survey. In addition, other climate change-related issues, such as drought, which had previously been viewed as relatively unimportant, were viewed as more salient, indicating a broadening of awareness of additional potential impacts for communities. Meanwhile, Figures 8 and 9 show that issues such as loss of resources and species extinction were judged more frequently than climate change to be ‘very important’.

Figure 6. How important are each of the following environmental issues for your community? (before intervention)

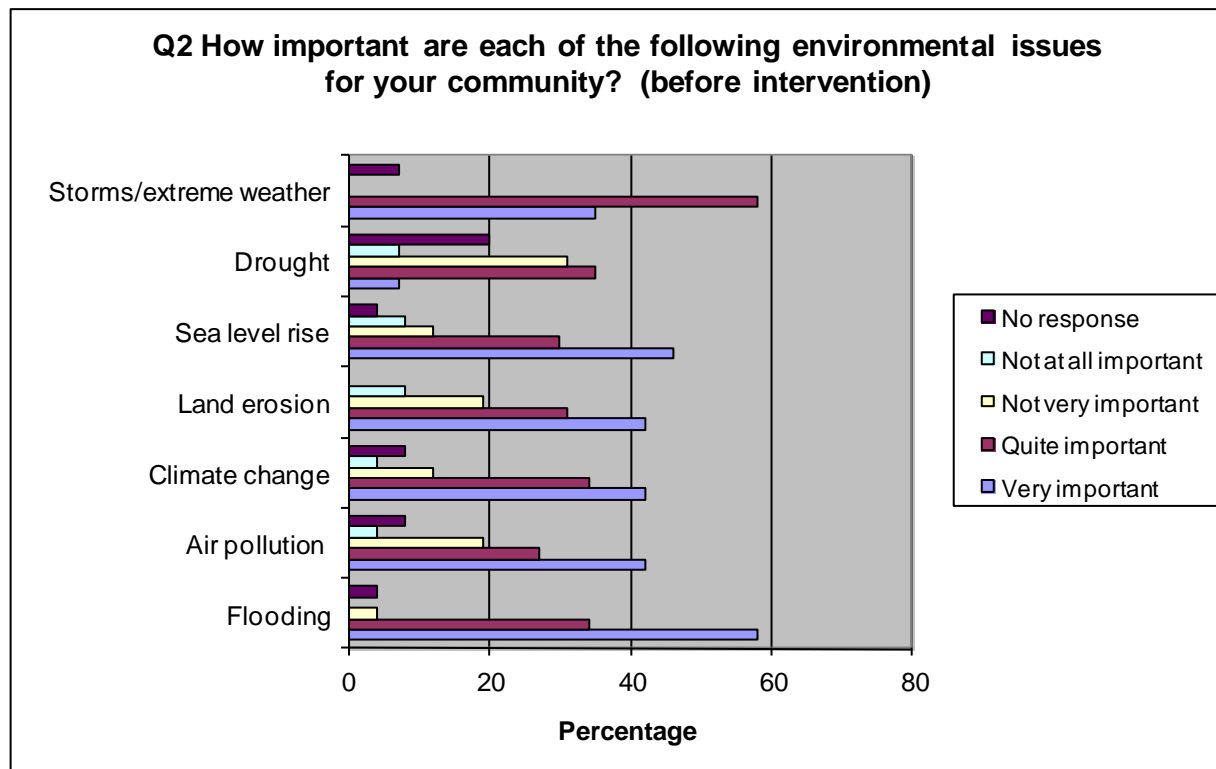


Figure 7. Importance of environmental issues for the community (during intervention)

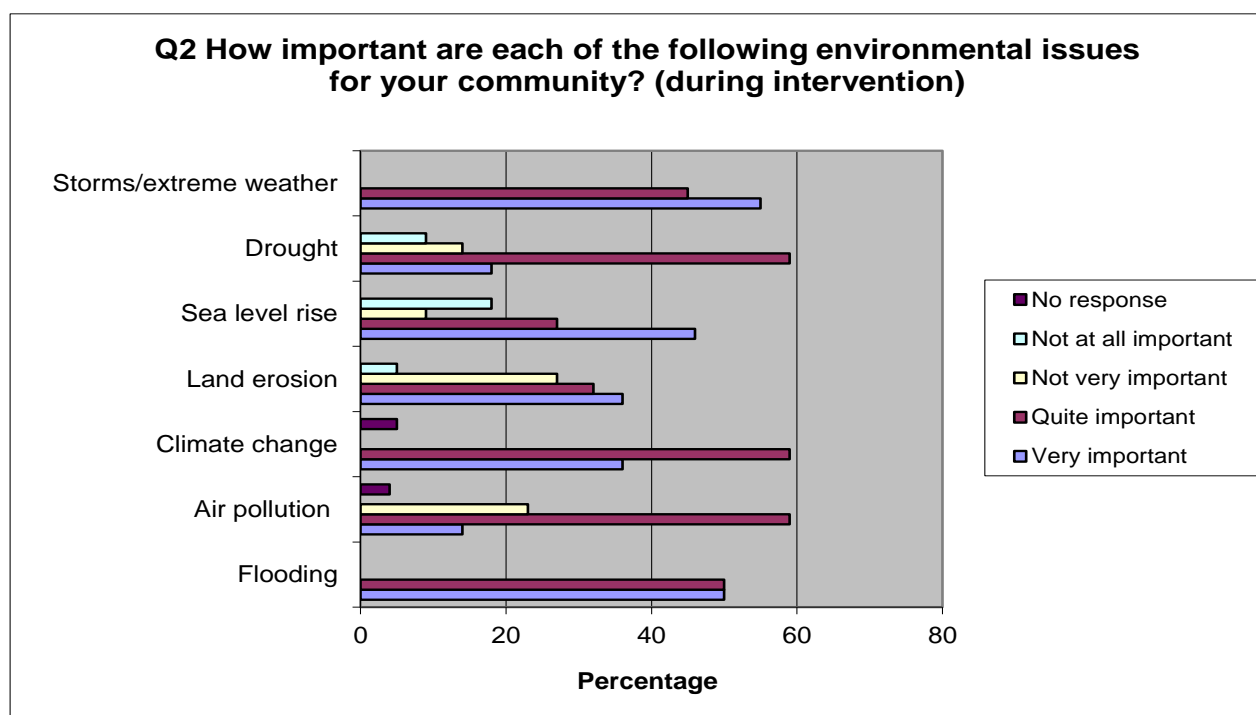


Figure 8: Importance of environmental issues for the community (before intervention)

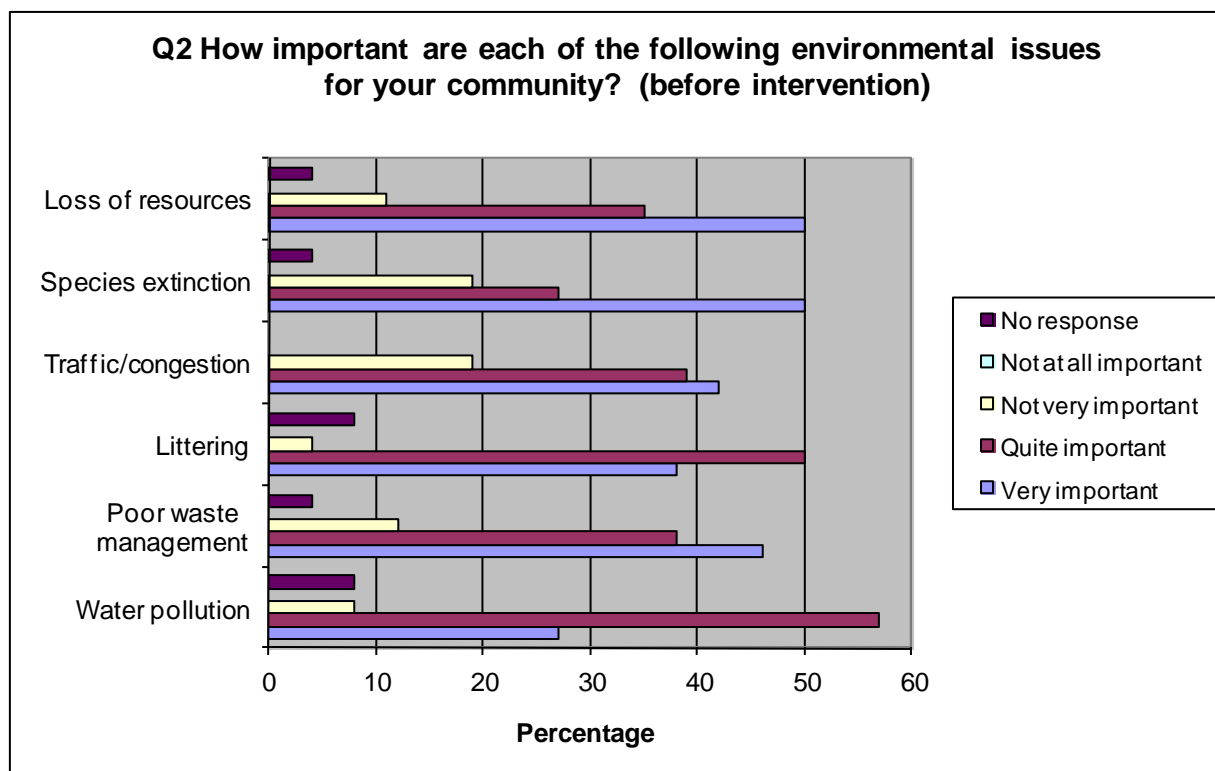
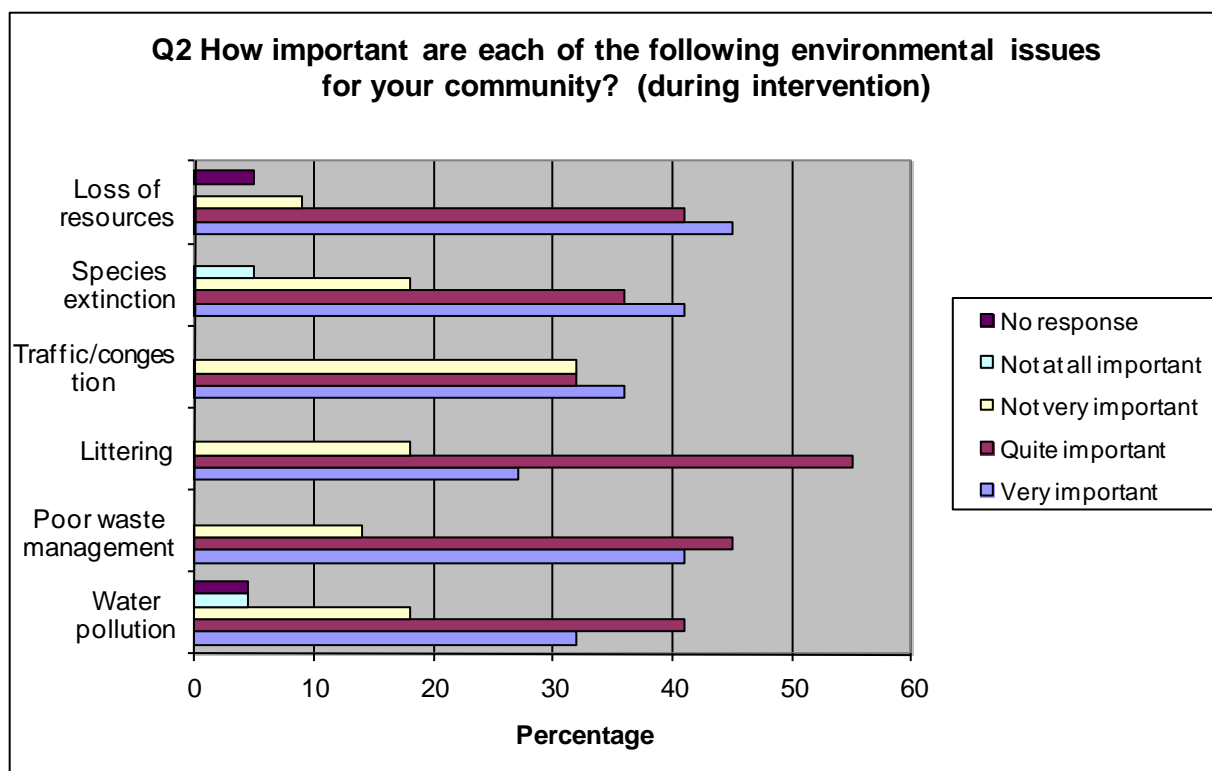


Figure 9. Importance of environmental issues for the community (during intervention)



With reference to the experience of climate-related conditions over the preceding three years, Figures 10 and 11 below demonstrate that prior to the programme, flooding was the condition most commonly experienced 'a lot' within communities. Meanwhile, storms/extreme weather had been experienced 'a little' in the majority of communities, whilst drought and land erosion had been seldom experienced. During the programme, this pattern shifted, whereby the condition most frequently cited as experienced 'a lot' was storms/extreme weather, with flooding having been experienced in most communities, but predominantly only 'a little'. Whilst drought and land erosion were perceived to have occurred rarely, if at all, an increasing number of Councillors acknowledged that these conditions had occurred 'a little' within their communities over the past three years.

Figure 10. To the best of your knowledge, in the past three years, to what extent has your community been affected by the following issues (before intervention)

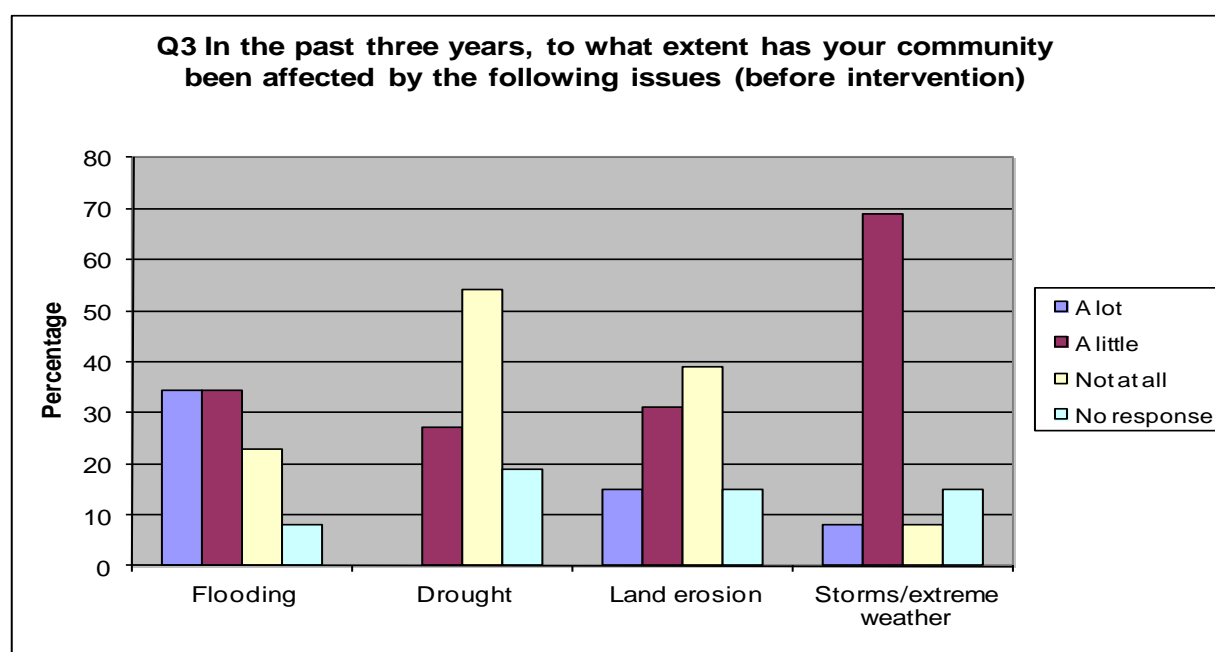
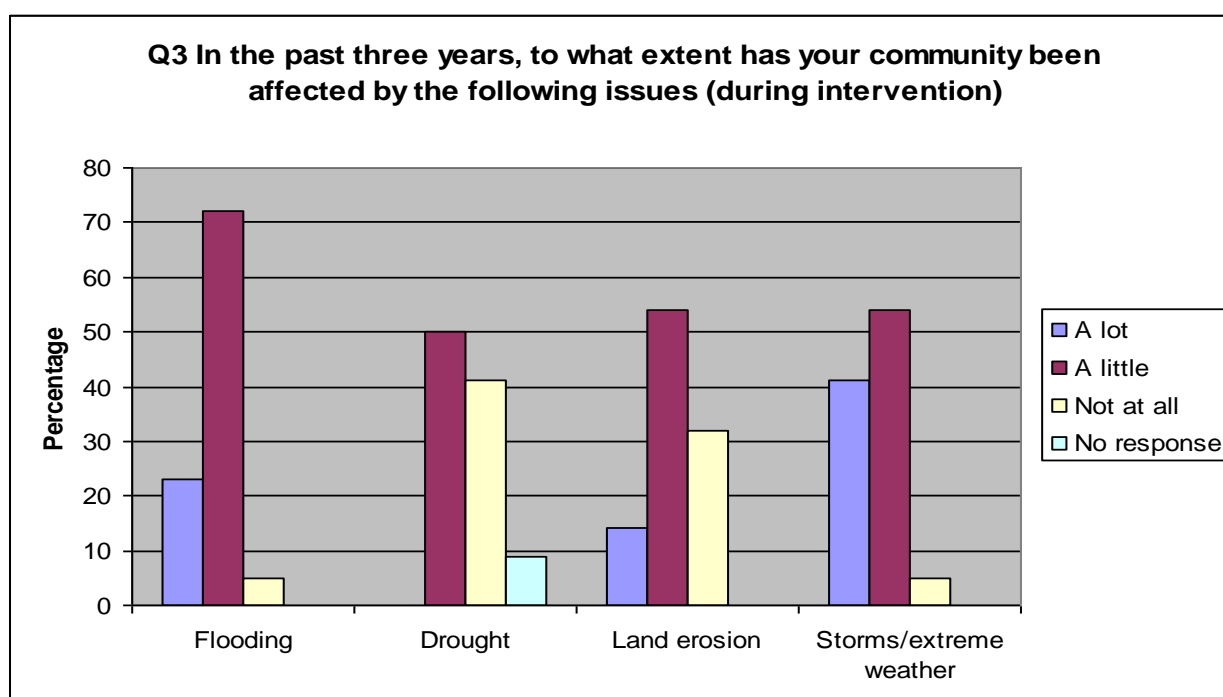


Figure 11. To the best of your knowledge, in the past three years, to what extent has your community been affected by the following issues (during intervention)



Climate Change Knowledge

Figures 12 and 13 below indicate that prior to the programme, Councillors most frequently claimed to know 'a fair amount' about climate change (50%), closely followed by 'just a little' (46%). Only a very small proportion of Councillors claimed to know 'a lot' (4%).

During the programme, the proportion of Councillors claiming to know 'a fair amount' increased to 68%, with only 23% responding that they knew 'just a little'. Moreover, the proportion of Councillors considering that they knew 'a lot' about climate change also increased to 9%. In summary, perceived climate change knowledge increased as Councillors became involved in the Strong Roots project.

Figure 12. How much would you say you personally know about climate change? (before intervention)

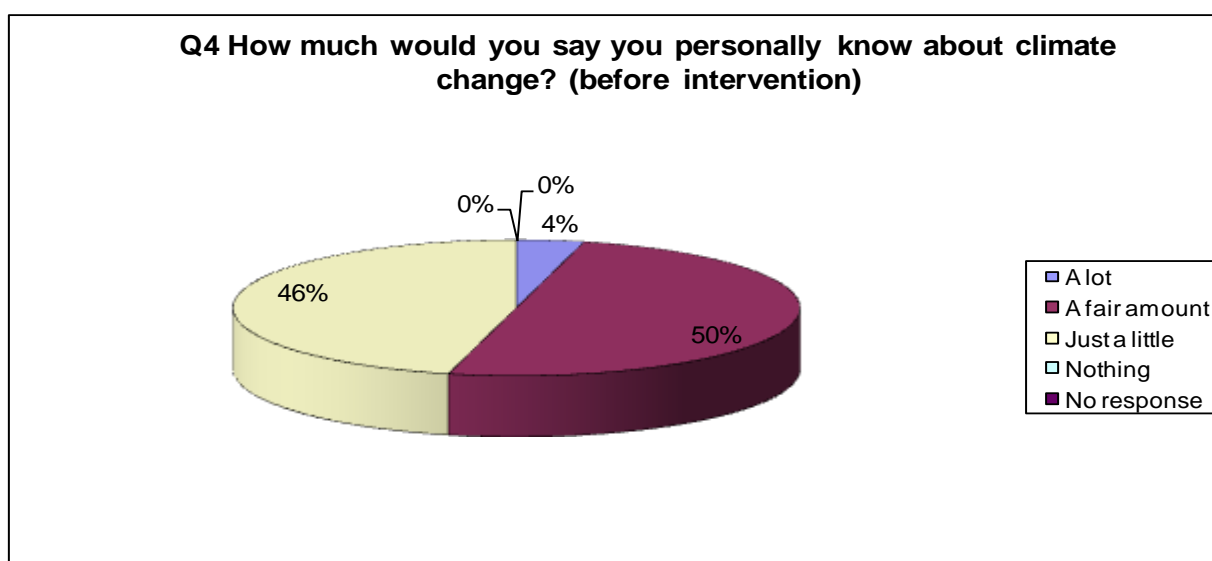
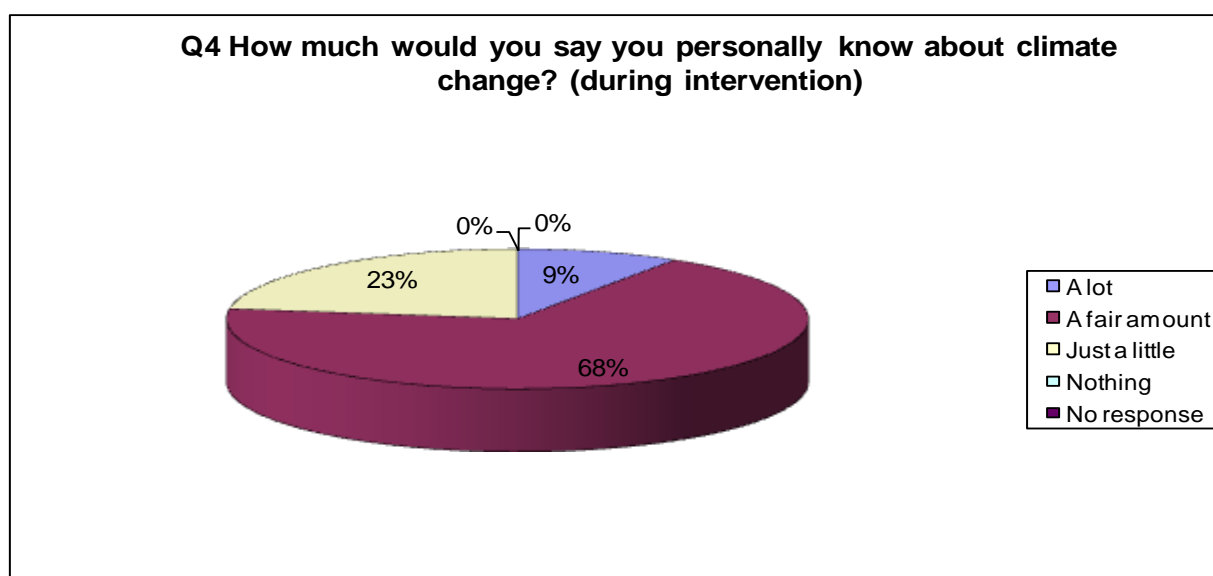


Figure 13. How much would you say you personally know about climate change? (during intervention)



Climate Change Concern and Beliefs

The figures below relate that across both surveys, the majority of Councillors were either 'very concerned' or 'quite concerned' about climate change (91% before the programme, 82% during the programme). Whilst the percentage of Councillors increased from 36% to 41% between surveys, overall levels of concern decreased by almost 10%, as well as the percentage of Councillors who were 'not very concerned' increasing by 14%.

Figure 14. Q.5. How concerned, if at all, are you about climate change, which is sometimes referred to as 'global warming'? (before intervention)

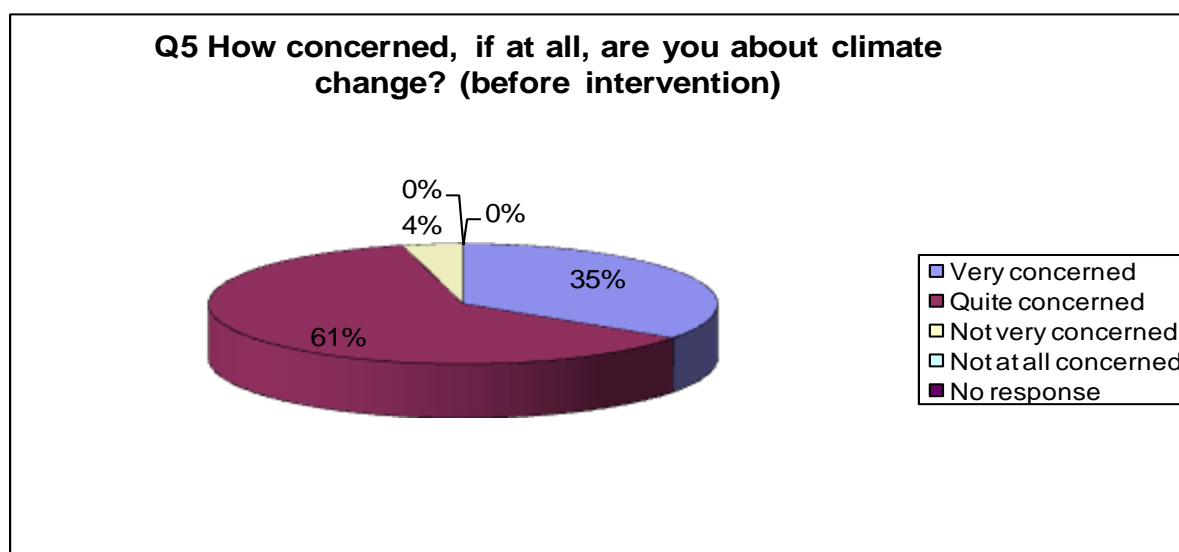
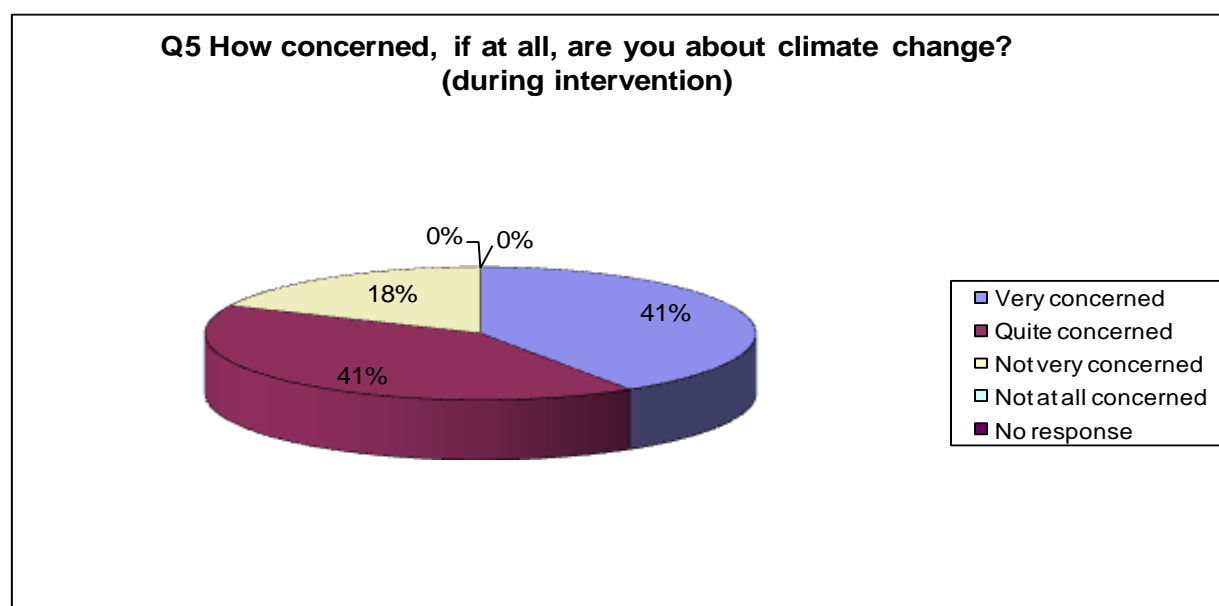


Figure 15. How concerned, if at all, are you about climate change, which is sometimes referred to as 'global warming'? (during intervention)



Prior to intervention, when asked about the causes of climate change, the majority of Councillors considered that climate change was caused 'partly by natural processes and partly by human activity' (39%) or 'mainly by human activity' (38%). Only a small proportion expressed the opinion that climate change was caused by 'mainly natural processes' (15%).

During the programme, this pattern changed, whereby the proportion of Councillors believing that climate change was caused 'partly by natural processes and partly by human activity' increased (59%), whilst those believing that climate change was caused mainly by human activity fell to 23%. In addition, the number of Councillors considering that climate change was the result of 'mainly natural processes' fell to 9%, indicating an increased perception that human activity plays a part in climate change.

Figure 16. Thinking about the causes of climate change, which best describes your own opinion? (before intervention)

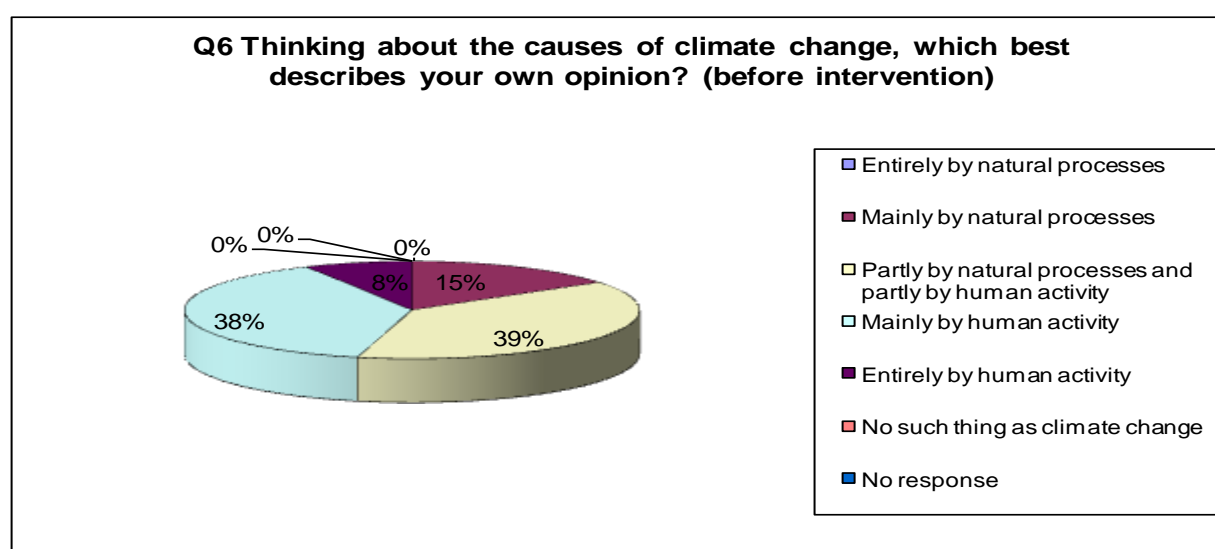
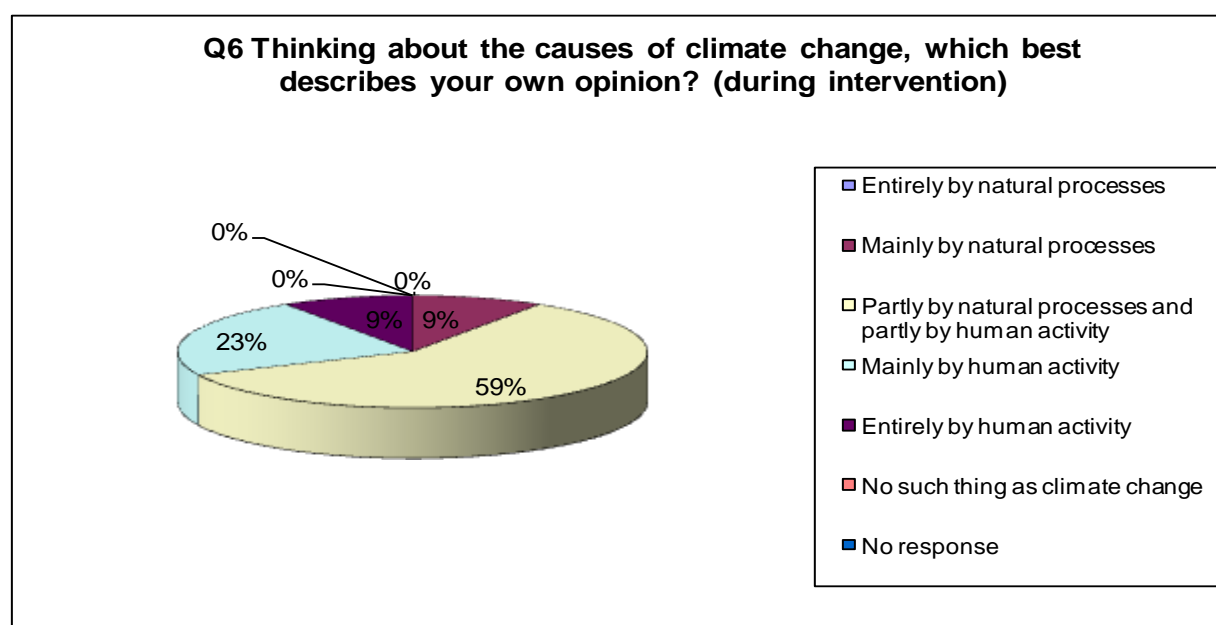


Figure 17. Thinking about the causes of climate change, which best describes your own opinion? (during intervention)



Moving on to looking at agreement with a range of climate change-related issues, displayed in Figures 18 and 19, prior to the programme, Councillors tended to take the view that scientists were in agreement that people are causing climate change. However, during the programme, there was a shift whereby Councillors expressed less uncertainty and more agreement with the statement.

In addition, Councillors were more commonly in agreement or neutral toward the statement that we can trust scientists to tell us the truth about climate change prior to the programme. During the programme, agreement with or uncertainty about the statement increased slightly. Councillors were also split on whether the seriousness of climate change was exaggerated. During the programme, there was a decrease in agreement with the statement as more Councillors were uncertain or disagreed that the seriousness was exaggerated.

Figure 18. Please indicate the extent to which you agree or disagree with the following statements (before intervention)

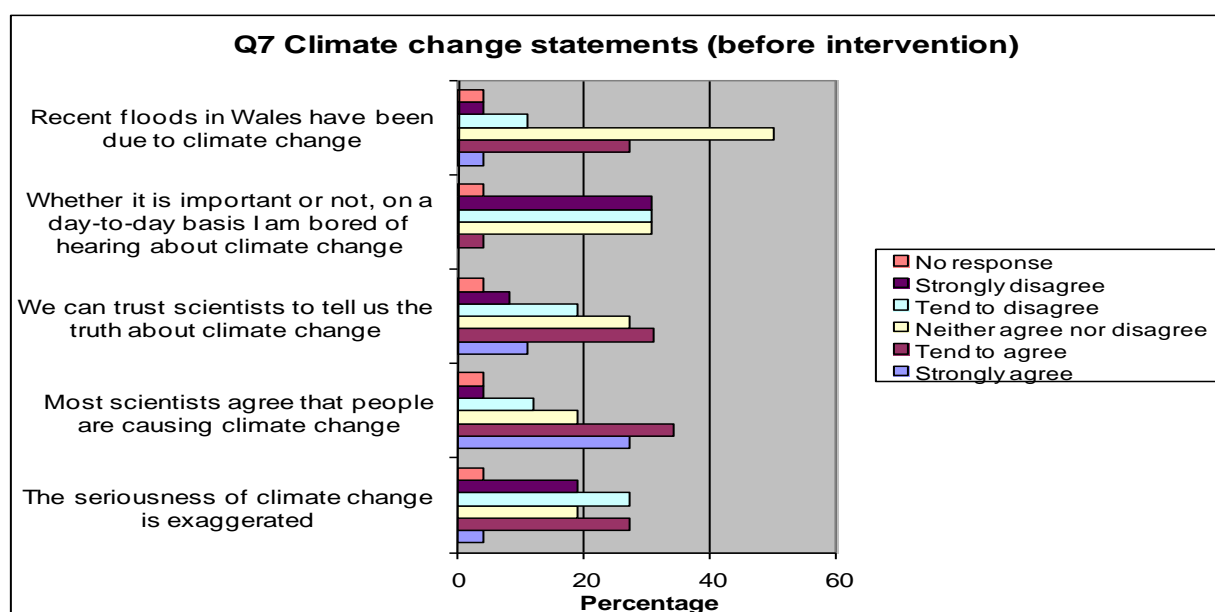
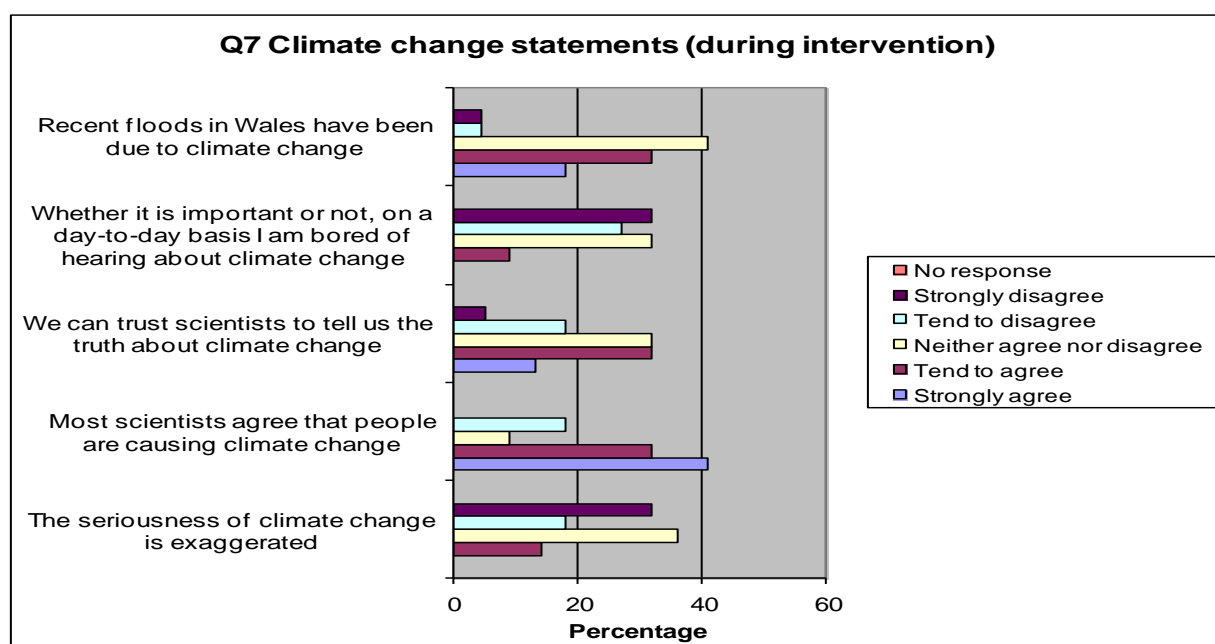


Figure 19. Please indicate the extent to which you agree or disagree with the following statements (during intervention)



Examining responses to some of the other climate change-related statements, Figures 20 and 21 below show that whilst Councillors agreed that the community had a responsibility to do something about climate change, during the programme there was a shift toward stronger agreement. Likewise, during the programme, Councillors expressed shifts toward agreement that it is important for Wales to adapt to climate change rather than try to reduce the causes, that climate change is likely to be a serious problem for Wales, and that their local area would be affected by climate change. Meanwhile, prior to the programme there was a split in agreement over whether climate change would affect areas far from here. However, during the intervention, there was increased disagreement with this statement.

Figure 20. Please indicate the extent to which you agree or disagree with the following statements (before intervention)

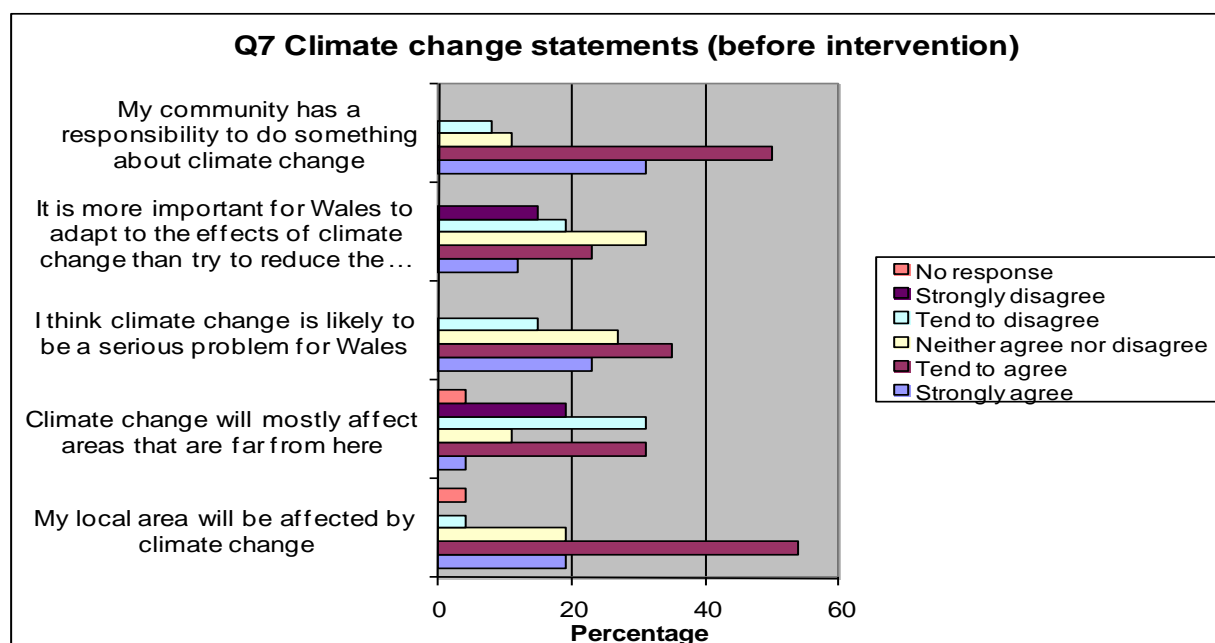
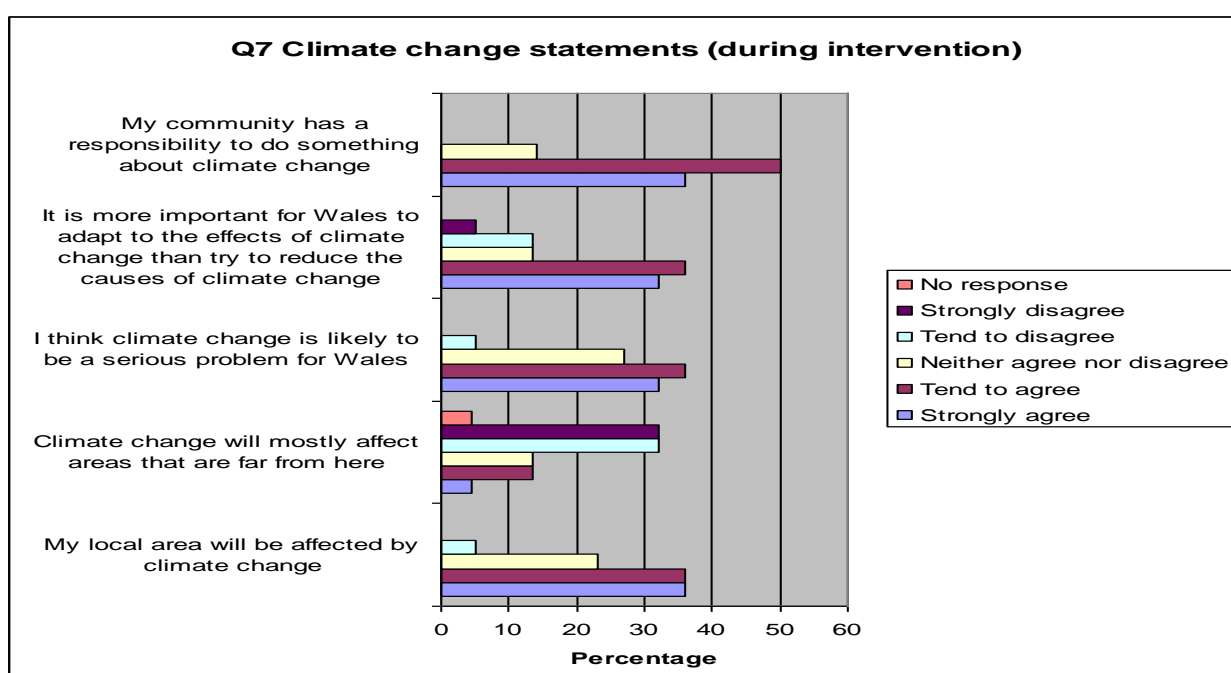


Figure 21. Please indicate the extent to which you agree or disagree with the following statements (during intervention)



Meanwhile, Figures 22 and 23 displayed below relate that Councillors tended to agree that climate change will increase the risk of flooding in Wales, with agreement increasing very slightly during the programme. In a similar pattern, prior to the programme, Councillors tended to be in agreement that addressing climate change should be central to Government decision-making in Wales, with agreement increasing slightly during the programme.

In addition, both prior to and during the engagement programme, Councillors more commonly tended to agree that if most people in Europe, Wales and the local community changed, this would make a difference to climate change. Whilst there was very little change in proportions between surveys, with reference to behaviour change at the community level, there was a decrease in uncertainty towards the statement, and increases in both agreement and disagreement that community behaviour change would make a difference to climate change.

Figure 22. Please indicate the extent to which you agree or disagree with the following statements (before intervention)

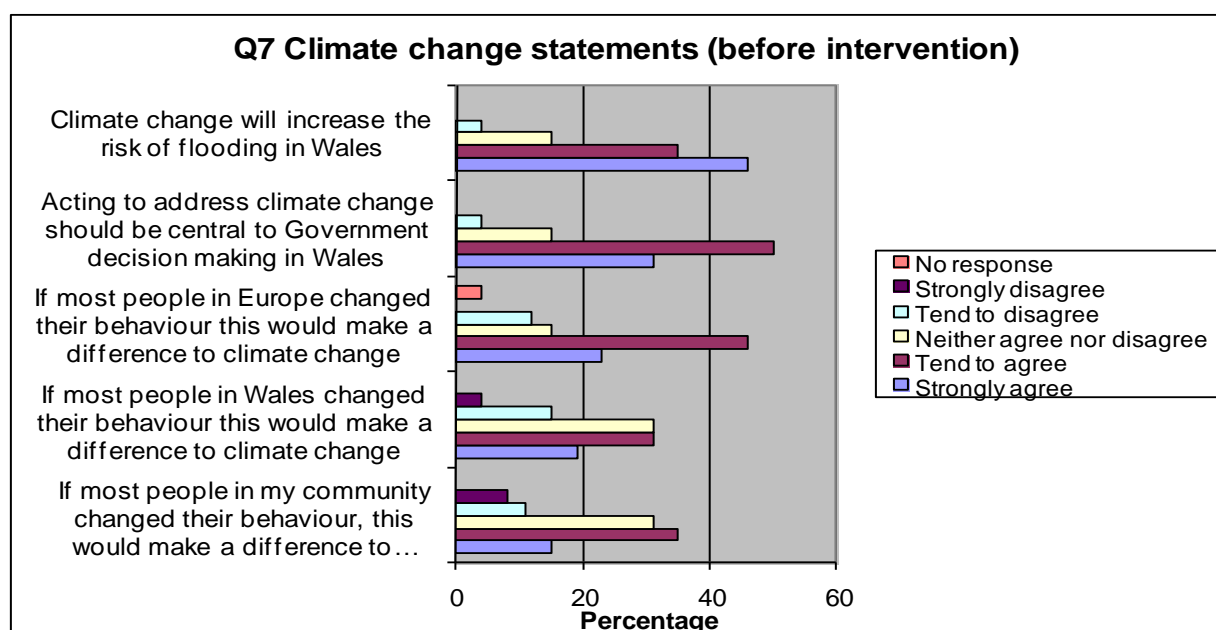
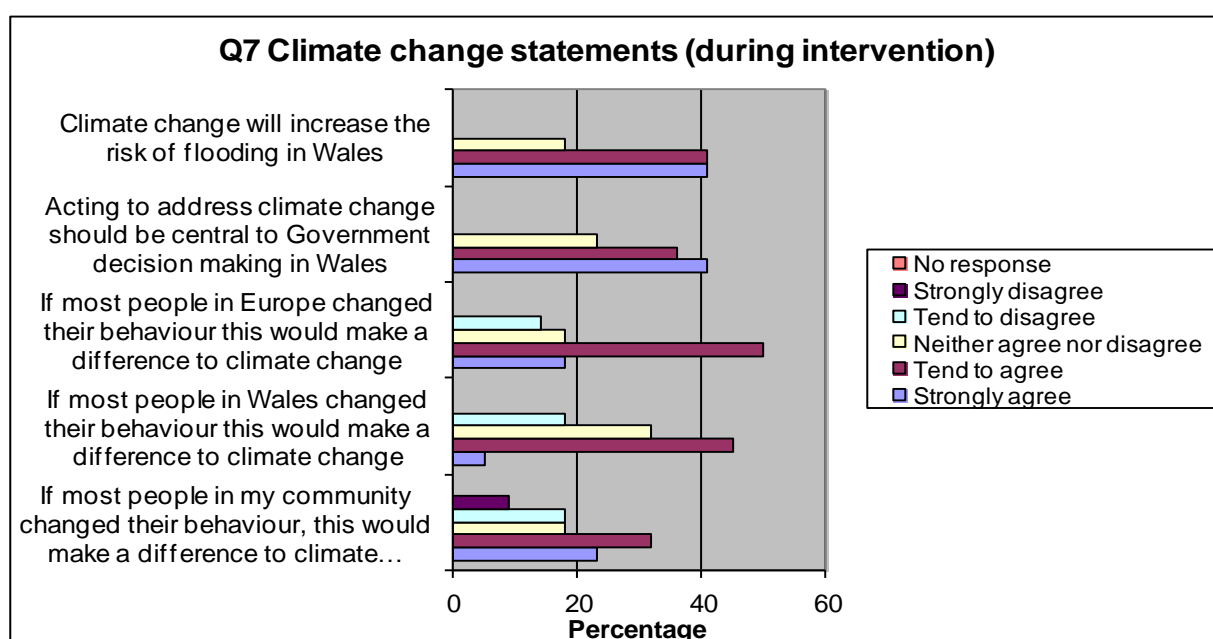


Figure 23. Please indicate the extent to which you agree or disagree with the following statements (during intervention)



Responses to the last two sets of climate change statements from item 7 in the survey (displayed below in Figures 24 and 25) show that, in line with the previous Strong Roots report and other research on Welsh public perceptions of climate change (Capstick, Whitehead & Pidgeon 2013) that there is a greater perceived risk of sea-level rise (and especially flooding) than water shortages and drought. Comparing perceptions prior to and during the intervention, there was slightly less agreement and disagreement and more uncertainty about whether climate change will increase the risk of sea-level rise around Wales. Likewise, there was considerable uncertainty about whether climate change would increase opportunities for tourism in Wales or to grow new crops. However, there was less uncertainty and significantly greater agreement during the intervention that climate change will increase the risk of water shortages and drought in Wales.

Figure 24. Please indicate the extent to which you agree or disagree with the following statements (before intervention)

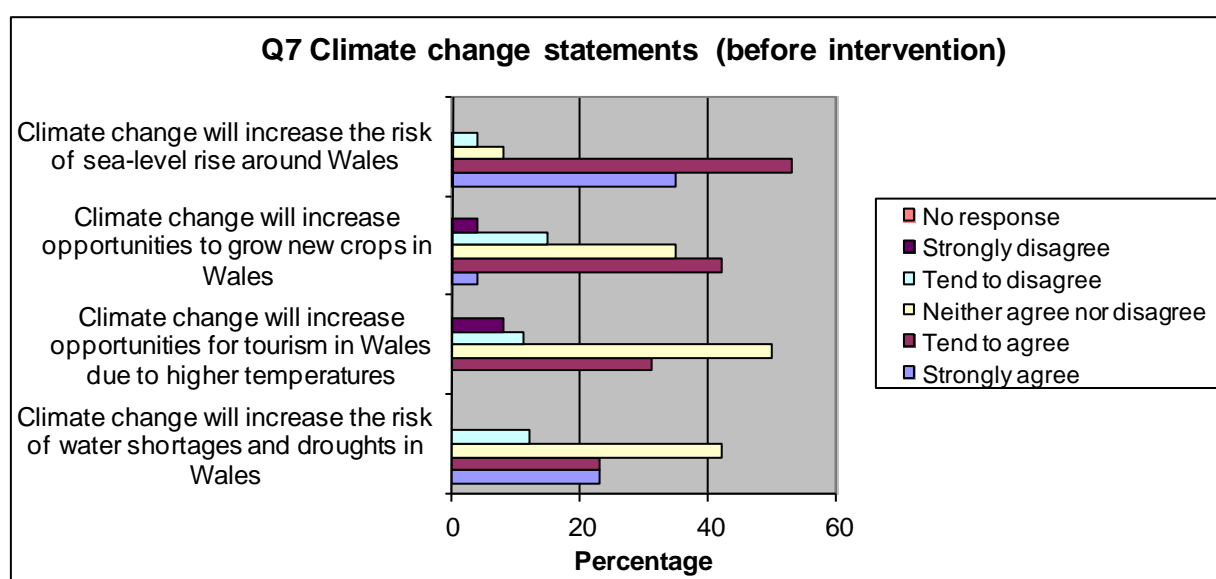
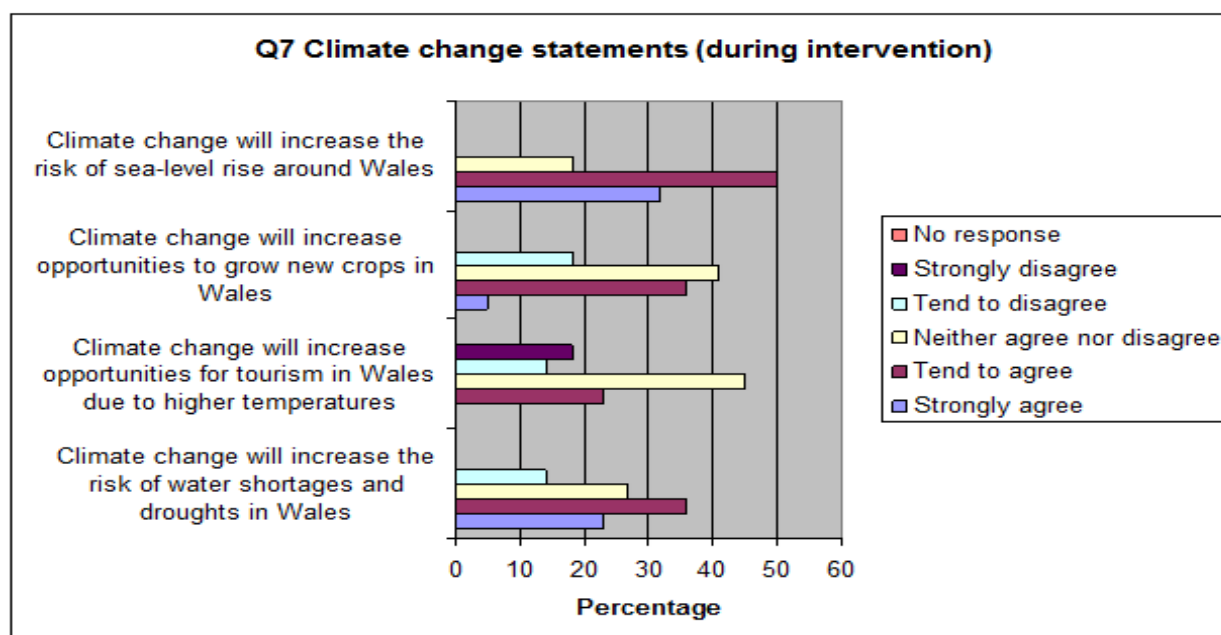


Figure 25. Please indicate the extent to which you agree or disagree with the following statements (during intervention)



Despite uncertainty over some of the impacts of climate change, prior to the programme, when asked when, if at all Wales will start feeling the effects of climate change, a clear majority of Councillors (54%) responded that that Wales is already feeling the effects (see Figure 26 below). The same proportion of Councillors expressed the same opinion during the programme (Figure 27). However, taking other responses into account, there was a general movement towards perceiving the effects of climate change as being temporally more proximate during intervention (indicated by a swing from estimates of 50 or 100 years, to 10 or 25 years).

Figure 26. When, if at all will Wales start feeling the effects of climate change (before intervention)

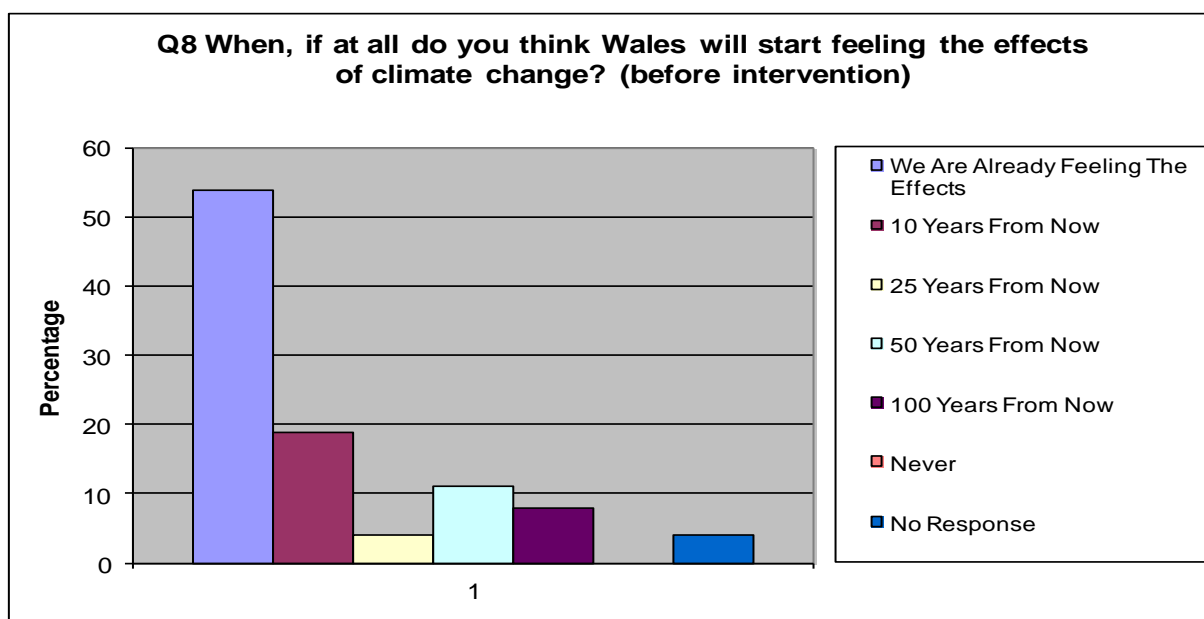
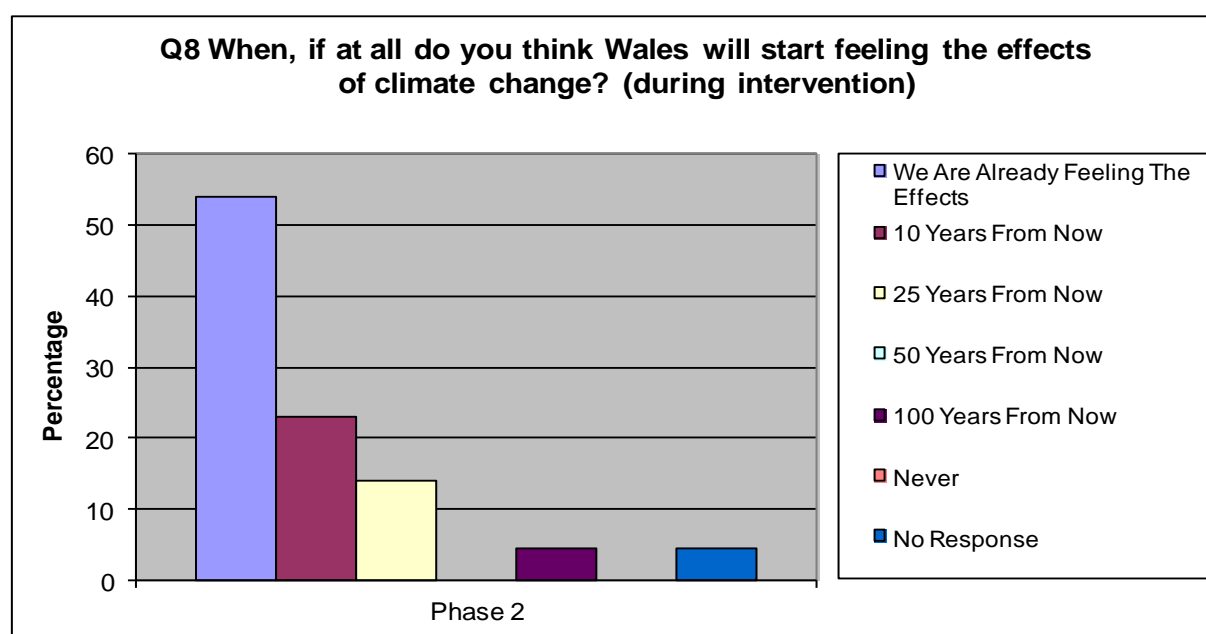


Figure 27. When, if at all will Wales start feeling the effects of climate change (during intervention)



Further to the above question in terms of the temporal nature of climate change effects, another question gauged the degree to which Councillors felt that their communities would be impacted by climate change. The results appear below in Figures 28 and 29. Whilst all councillors believed that their communities would be affected by climate change in the coming years in both surveys, the proportion of those believing that the community would be affected 'a lot' increased by 7% during the programme.

Figure 28. To what extent do you feel your community will be affected by climate change in the coming years (before intervention)

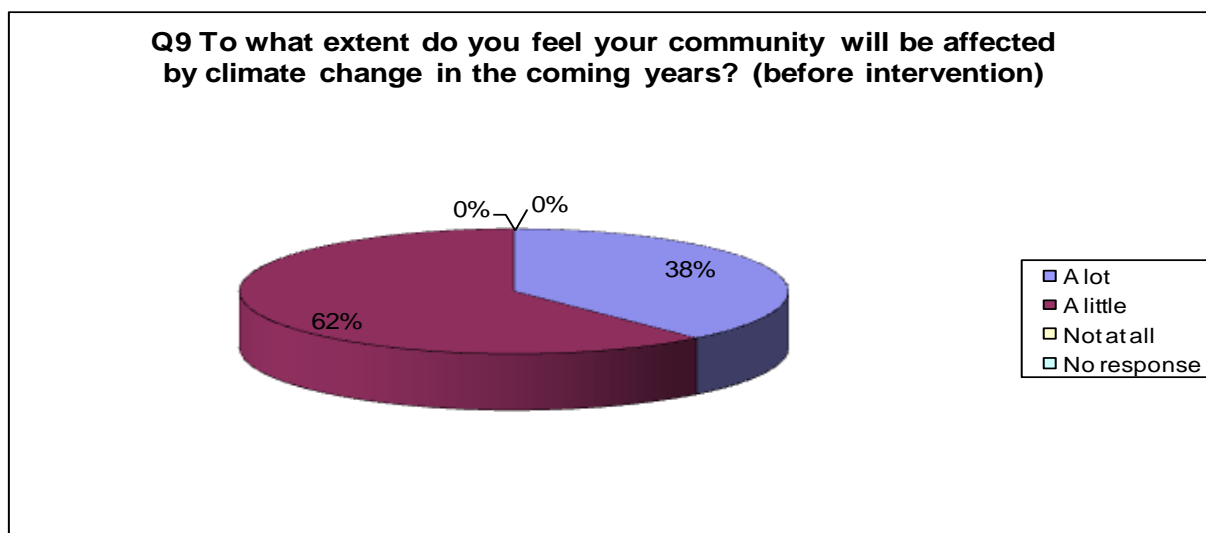


Figure 29. To what extent do you feel your community will be affected by climate change in the coming years (during intervention)

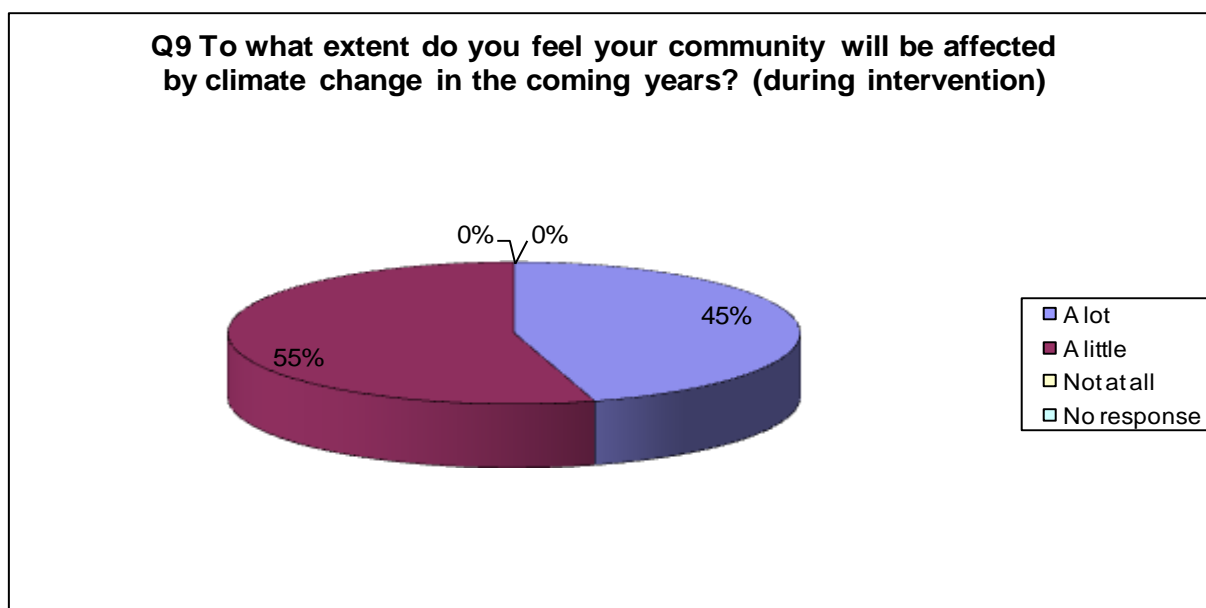


Figure 30: Abergele Support Visit



7.0 Focus Group Results (Phase 2)

The second round of focus group interviews took place between late February and early May 2014, using the same methodological approach as the first round of interviews; each was conducted at each council's premises, taking between one and two hours. Each focus group interview was audio recorded and subsequently transcribed for analysis.

In contrast to the first groups which attempted to understand contextual issues across the four councils and general impressions of climate change, the second round of groups was designed to elicit councillors' perceptions of the project. Focus groups were convened approximately five months after the project launch, between the second and third workshops in Builth Wells.

As before, councillors again completed the same climate change survey so that their responses could be compared to those given before the project began.

Due to the availability of Councillors between surveys, the demographic makeup of the sample for the second survey differed slightly to the first. Of the 22 Councillors who completed the second survey, 77% were male, whilst age (5% aged 16-24, 18% 25-44, 18% 45-64, 50% 65+) and education variables (5% educated up to GCSE/O-Level, 9% A-Level, 27% Degree level, 41% Postgraduate level) were similar to the first survey.

Impressions of the Engagement Programme

Taking the engagement programme as a whole, all four Councils attended all sessions and contributed significantly to the workshops and support visits, as well as undertaking additional work outside of these formal events. In addition, Councillors expressed the sense that they had enjoyed participating in the project and had found it to be a positive and worthwhile experience:

***T1:** And of course, we haven't thanked One Voice Wales for selecting us. I don't know why we were selected, we just had this letter saying, will you do this, and we said yes, not knowing what it was going to be, what we were going to achieve, how much work it was going to be, how, was it going to cost anything? Were there any funding options? We didn't have a clue, we just said, oh yeah we'll do that. And I'm glad we did because we could easily have said no. (Tredegar).*

The Strong Roots pilot project was launched in October 2013 and ran until May 2014, coinciding with one of the mildest and wettest winters for centuries in the UK. When offering their thoughts on the project, councillors reported that the weather conditions helped the project by focusing minds on the issue of climate change, making the project all the more salient as the flood waters rose:

***Q:** Has being involved in the project or listening to any of the talks that have been given affected your thoughts about climate change or any other environmental issues?*

***P6:** I was pretty much convinced already so...*

***Q:** So it just kind of supported your prior belief?*

***P8:** Perhaps an advantage we had was that very bad weather over Christmas which is why the project was more convincing. (Penarth).*

In the previous round of focus groups before the launch of the project, the issue of flooding was the main one that arose when discussing issues affecting the community. However, it was noted that by the second round of focus groups, councillors appeared to broaden their perceptions of climate change and how their communities might be affected. For example, in Tredegar, whilst the issue of flooding was invariably a point of focus owing to the weather at the time, councillors also expressed an increased awareness of the potential for other less likely impacts from climate change that were absent from the previous round of focus groups, such as drought and water shortages in councillors' communities:

L8: What we can't rule out is the fact that we're discussing climate change and at the moment we're a little bit focused on the flooding. But, come the summer, there might be another climate change related issue that keeps the momentum going...

L4: Yeah, yeah

L3: There could be, now look at all the weather we've had now right? We've had seventeen millimetres of rain in one hour, and this, that and the other. And next June you can't water your garden, right?

L4: Yeah, that's a good point. (Llanelli).

In addition, councillors who had perceived specific climate change impacts prior to the project as non-applicable within their communities had also begun to broaden their perceptions and to acknowledge that their communities were more susceptible to a range of climate-related impacts than they had previously realised, that were influenced by realising through discussions with the other councils that they faced similar issues, as well as being influenced by the recent wet conditions:

Q: Has it been, again, I've already asked the others, whether you found the support visit and the workshop days useful?

T3: Yeah, I think it's all been interesting and, I'm particularly interested as to why we were, cos we're sort of up there and all the other councils are sort of down there, so our risk of being flooded is a lot less than theirs is from sea, sea flooding

Q: Right

T3: So obviously, so that was an interesting part of it, to see how they deal...but their issues were mainly the same as ours. There wasn't a lot of, I don't think there was a great deal of difference in, I know they face flooding from the sea and floodplains, stuff like that, but there wasn't a massive, massive difference. But I suppose we've got our own sort of flood plains cos if you go down to Bedwellty where they're building the new houses they'll probably be regarded just below them as flood plains, where the river obviously floods out. And we've seen that this winter from, we had the rain and then myself and (T5) walked down there and after about three or four weeks the ground was still saturated down at Bedwellty Pit. (Tredegar).

With reference to working alongside other councils at the Strong Roots workshops, each of the councils expressed the view that working with the other councils in the project had been a very positive experience by offering information and alternative perspectives as well as enriching the way in which councils understand issues within their own communities:

T1: I found talking with other people in Builth, you know those networking events where we all come together?

Q: Yeah, with all the other councils, yeah

T1: It's good to see the issues that other people have and I think they are quite good...and there's a couple of people from Penarth. There's one gentleman who's a really keen environmentalist, so it's nice to listen, y'know when we all swap tables and have people from other councils join us, it's nice to hear other opinions and other ideas and things like that so I think the networking and the exchanges have been beneficial. (Tredegar).

Impressions of the Workshop Presentations

When asked about what stood out about the workshops and support visits specifically, one of the most frequently mentioned elements across the four councils were the expert speakers who had been brought in to talk to councillors about climate change in a more general sense, as well as in relation to their communities.

Overwhelmingly, councillors evaluated the expert speakers positively and enjoyed the privilege of listening to experts in their field talking about climate change. This was particularly important because, as indicated

in the first round of focus group interviews, the general sense shared by councillors was that their climate change knowledge was fairly limited. The expert speakers were therefore valuable in providing up to date knowledge from credible speakers that not only provided a baseline level of knowledge that assisted councillors in the development of their projects, but also challenged councillors' embedded perceptions and re-examine their opinions about climate change:

T1: I found, there was a chap in the first Builth meeting that was, talked a lot about the technical background of climate change

Q: So this was the (name of presenter) presentation?

T1: First Builth meeting, perhaps yes

T6: ...I thoroughly enjoyed it. I think it set the context very well

Q: What did you like in particular about it?

T6: That you got the expert perspective, latest research and I think it catered for the disbelievers as well

Q: The disbelievers?

T6: Yeah

T6: Yeah, the ones who stay on the edge. And in time gone by, I did geology at university, so my belief system was that it's ever-evolving and the world is ever-changing, y'know, we're going through a transition. But when you see the stats and see the exponential rise, these are not tallying up I think. Y'know, we are going through another change but obviously, looking at all the of this has led me back to it and as I said, it was the contexts for me because obviously you've got the political context worldwide, so you've got that, and then that sets the context for it to be brought down to a local level, which is where (name of presenter) came in and some of the other speakers as well. So that was great. (Tredegar).

Whilst the expert speakers were able to provide a wealth of scientific information on climate change that was appreciated by councillors, there were a few councillors who, whilst enjoying the presentation, felt that the content was at times pitched a little too high in relation to their understanding of climate change, particularly in terms of the technical language sometimes used by speakers:

Q: Before I forget (A7), you mentioned (name of presenter), who did the support visit presentation. What did you think of her?

A7: She was very good I thought. Yes

Q: Was there enough of the local context? Was it understandable?

A7: I think that she speaks more to undergraduates and PhD students, as her talk was pitched a bit high. I think I got most of it though...we're not unintelligent people, but I do think some people speak on a higher plane than us, a little step up from us... I wouldn't say boring, but you could let your mind wander

Q: Because you lose track of what's being said, yeah?

A7: Yeah. (Abergele).

A more general point that was made about the amount of time devoted to delivering climate change information in the early stages of the project was a sense of frustration that the reality of climate change had already been accepted, and that instead of spending so much time on plugging the climate change message, councils would have been better served had they received more practical guidance on how to go about designing the climate change community engagement project itself:

R8: I think it's been unfortunate that it's taken us a long time to get to a stage where we're now designing a project. That probably could have been two meetings ago if there was an acceptance of the fact that we were here because we, not understand, but we accept climate change, and we accept we need to do something. So it's almost we've had too much theory about stuff we know about and not enough about getting on with actually starting a project. And it may be with designing your project that we could have done with some more input. (Penarth).

Perceptions of the Workshop Exercises

Whilst the exercises were generally viewed as being useful, there were elements of the exercises that some Councillors commented upon. For example, in the climate change perceptions exercise (see Appendix 5) the response options were perceived by one or two to constrain Councillors' ability to respond in terms of simply agreeing or disagreeing with the statements. As some councillors pointed out, it was difficult to simply agree or disagree with statements, as opinions were typically more complex and were not adequately covered by the two options available:

Q: In the launch event there was one where you had to indicate whether you agreed with certain statements. How did you find that one? Was that useful?

A7: That was the one that mapped out our opinions for you, I think that's what you said, it was an indication of how you felt at the beginning of the exercise?

Q: Yes I think so. Yeah

A5: Sometimes agree and disagree are two wrong words because there's always that empty space in between, and there's nowhere for you to put it. There's nowhere for you to go. Y'know, you find a lot of issues like that because you might not find that everything is agreeable or disagreeable to you, but you've got nowhere to put it so it's either all for or against it in one go

Q: So you're forced to make a choice?

A5: You need the middle

A7: A lot of these surveys now you've got agree and disagree and one to ten. (Abergele).

The other exercise councillors discussed in feeding back their experiences of the project concerned the local issue mapping exercise. Generally, this was considered to have been more useful than the climate change statement rating exercise, particularly as it encouraged councillors to take local issues into account and to classify them according to the type of issue:

T1: The exercise we did in here where we were putting the post-it notes up, I think that was a really good starting point and perhaps we need to re-look at those issues and look for gaps in our community...and go from there

Q: You liked the mapping activity and you found that more useful did you?

T1: Yeah. (Tredegar).

Whilst most Councillors found the local issue mapping exercise useful, one or two expressed the opinion that it was quite tricky to quantify their maps in a quantifiable way that was perceived as being expected:

Q: And what about the exercises that you were asked to do that evening? There was the mapping of issues and towards the end you had to do some mapping and planning using the matrices,

P8: It was like someone was trying hard to quantify what we were trying to do and it seemed a little bit over the top in terms of everything that was necessary. It became very bureaucratic all of a sudden. (Penarth).

Similarly, other councillors also critiqued the local issue mapping exercise because of its complexity and the difficulty in constraining responses in the actual mapping of issues where they were expected to map and assign issues to specific categories. This occasionally caused some confusion as there was perceived to be considerable latitude, meaning that issues could be accommodated within more than one category, yet there was no option for doing this:

Q: There were two exercises you did that evening. There was one, do you remember the one with the post-its?

ALL: (general agreement)

Q: How did you find that?

A5: A bit hard. A bit complicated

Q: Yeah?

A5: Cos you could look at one sheet, and look at another and there was a lot of issues overlapping

A6: *You could put comments that fit there, and move them here (Abergele).*

The culmination of councillors' draft climate change community engagement plans was set out in the 'plan template' that was circulated amongst councils, forming a potential document detailing each council's plan.

The odd person expressed confusion concerning how to complete the plan templates, however, guidance notes were provided and Mentors were on hand to deal with queries. One or two found the templates difficult to use because they found it difficult to accommodate their responses within the framework provided:

Q: *Yeah. And um so that was where, it was a template for actually sketching out your plan isn't it? It was that one?*

ALL: *(general agreement)*

Q: *And so, I have had a look at that and I'm interested in what you think of it, having had a look y'know in terms of the format, how it's worded, things like that and any other issues to do with it*

P6: *It's like these y'know you've got to shoehorn your stuff into it rather than sort of y'know it's constraining rather than releasing*

Q: *Ok. (Penarth).*

In addition, whilst most found the templates useful in helping Councils with their plans, one or two Councillors found it difficult to calculate assessments of risk because of the subjective nature of assessment:

Q: *Has it been useful having the template?*

A4: *I think it has. But looking at these government documents here, where they talk about risk assessment and ranking things, it's highly subjective.*

Q: *So has that been a difficult thing to do?*

A4: *It has been in a way. For example, I think the chances are that we'll have a major flood here within a hundred years. And if you were going to rank it I suppose you would say that would be number five, the worst possibly. But in the next years we may not have had anything and you'd have to put it as one. But I'm not sure where that gets us, this exercise. (Abergele).*

Facilitators and Barriers to Engagement

When discussing the prospect of implementing the plans that had been drafted through involvement in the Strong Roots project, a number of issues were mentioned that might impact on the successful completion of projects.

Within each of the councils represented in the Strong Roots project, a small group of interested councillors typically formed the participant group. Councillors were typically those who were interested in climate change and other environmental issues in relation to their communities. However, not all councillors were interested in the climate change agenda, and it was suggested by some councillors that their colleagues may be turned off by the very mention of climate change. Therefore, convincing other councillors of the value of their engagement project was perceived by some to be a real challenge. In order to involve and get the backing of other councillors, it was considered necessary to tie climate change to its relatedness to the community and to broaden the agenda to take into account potential impacts that are not seen as being related to climate change factors, but are nonetheless connected:

T6: *I think that's the biggest barrier. It's when you say climate change, because I could hear (councillor's name) going, huuhhh behind me y'know which must be despair I would think (laughs). But this blanket sort of glaze just comes over people's eyes. And it's only when it starts happening on the doorstep and you see it's tied to a bigger agenda people start to think, hang on a minute this is really close to home. It's not something that's happening in far-flung places, it's happening on the doorstep. But I don't think people make that connector between fuel poverty and y'know the increase in utility costs and food prices, they think that it's very far removed. (Tredegar).*

In addition to getting other members of the council on board, all of the four councils expressed some concern at the prospect of engaging with the local community on the issue of climate change. Some councils were all too aware that it was difficult to engage the community on issues such as climate change, particularly when local people had other issues to deal with in their day-to-day lives. Moreover, traditional methods such as public meetings were sometimes perceived as being unlikely to motivate the community to change its perspectives.

Q: I'm getting the sense that, as you said (L5), you're a little bit worried about engaging with the community
L5: I don't think the other people here are as worried as me. But I see it as a difficult task...I mean, you can look around the whole world and see massive attempts to move people in one direction or another. What I say is, is there a way that is more likely to reach the townsfolk than just y'know the obvious y'know of public meetings, whatever. (Llanelli).

Another consideration when attempting to engage with the community on the issue of local climate change impacts concerned the way that the community received information on climate change adaptation and resilience-related issues such as preparing for flood events. For vulnerable members of the community, such information might be counter-productive, leading to misunderstanding and undue worry for local residents if climate change issues are not communicated to them in the right way:

L4: ...sorry to cut across, but before we lose the issue about the local tools...who am I to decide? I'm not saying I know best or anything but, is there not a risk that panic sets in if, depending on say, which flood maps we use. Lots of people in Llanelli are on a flood plain
L9: Are on a flood plain, yeah
L4: And the last thing we want to do is for Mr or Mrs Jones who are of an age, is to start panicking. Because...y'know, do we take the one in fifty, the one on thirty, or the one in a hundred year flood plains or whatever? And even then, there is a tendency, even if you've studied statistics, there is a tendency to jump to one in fifty year flood...well I've lived here for fifty years and there hasn't been one yet...means it's coming
ALL: (general laughter)
L5: It's called the maturity of chances, it's a gambler's fallacy...(Llanelli).

With reference to more practical considerations, access to *funding* for projects and access to specific *knowledge/expertise* for projects commonly came up across all four councils as fundamental to the success of initiatives:

Q: And is there anything you need from (the Project Mentor)? Is there anything that they could be doing for you?
P8: Funds to do the project?
ALL: (general laughter)
Q: Funding? (laughs). You could ask them
P1: We need advice on methodology to some extent. There's no one here that's got that
P8: We thought we'd obviously use (name of Local Authority representative) where we could because she's obviously, and she also gave us a long list of additional sources for funding, yeah
Q: So you might have wanted more information on sources of funding from the project?
P6: That would have been helpful from the group before, but we now have access to a range of possible funding. (Penarth).

As noted in the above extract, whilst councils may have identified occasions where the Project Model might have provided additional information, councils were able to identify gaps and to act to address these gaps. It should also be noted that Project Mentors were contactable should councils need them. Whilst funding was a relatively straightforward issue affecting councils, differences in community engagement plans meant that advice on methods needed to be tailored to the plan itself. For example, whilst Penarth Town Council in the above extract required advice on scientific method, other councils required other issues, for example, how to go about engaging the local community, necessitating a range of expert sources of advice:

L5: I don't think the other people here are as worried as me. But I see this as a difficult task, and are there any more up-to-date ideas than mine about how to shift public opinion? I mean, it's something that's a

psychological problem to get a shift in perception...What I say is, is there a way that is more likely to reach the townsfolk than just y'know the obvious y'know way of public meetings, or whatever? (**Llanelli**).

Following on from the previous extract, the need for information was an ongoing issue as councillors moved through the programme; at each stage there were novel considerations, questions and issues to be addressed. This suggests the importance of ongoing support outside of formal workshops and the need for mentors to work closely with councils in an ongoing way.

Engagement beyond Strong Roots

As a final point, all four of the town and community councils involved were mindful that in the Strong Roots project would only run until May 2014. However, some councillors viewed the project as already having achieved a degree of success because it had got councillors talking about the issue of climate change and how to respond:

***L9:** I think...sorry, just coming back to what you were saying, what (R3) was just saying, I think the fact that we're sat here today talking about what we believe to be important about an emergency plan for the town, I think y'know that is a result in itself for your project, is that there's a recognition that people have come together and realised actually hang on a minute, this is what we can actually look at doing, so that's a real result for your project isn't it, and in fact all four of us have come up with something that we want to look at moving forward with. (**Llanelli**).*

As mentioned in the above extract, councillors were aware of a change in their behaviour as a council, exemplified through 'coming together' in meetings, specifically to discuss emergency planning issues. However, there was also a sense that some councillors had undergone a profound shift in thinking about climate change during the programme, which was having an effect on their behaviour in terms of their motivation to understand issues and communicate climate change:

***R3:** ...listening to what people were saying, it started to trigger certain feelings and thoughts that had never entered my mind before?*

***Q:** What kind of things?*

***R3:** Well it's cold, it's cold. It's raining, it's raining, alright? It's blowing, it's blowing. But the realisation that something's got to affect all of this, you understand? I'm still not one hundred percent convinced about climate change...but I'm more...I'm learning more. And if I learn more, like I have in the past, I could then basically be a total champion for the cause of climate change. (**Llanelli**).*

In addition to reflecting on how they themselves have changed and were willing to learn more about climate change, there was the indication that councillors were already starting to engage and communicate climate change-related issues within their communities, and that local people's experiences of wild weather conditions could be used as leverage to help convince about the need to act:

***T3:** So what I'm trying to get at is, there are plenty of people in the town that can remember very, very serious y'know weather conditions...and they are starting to be receptive to the need to look at these things. But what we can't do...as we start moving we don't want to stutter and stop. We want to keep the momentum going. (**Tredegar**).*

As a final point, there was also a felt sense that whilst the Strong Roots project had helped motivate the four councils in developing their plans, which was another sign of success for the project, there was a felt sense that councils were now up and running and that the project was only a small part of a much larger picture:

***L8:** I think it's important that we don't get...held up by this May date because there's a lot because there's a big picture...*

***L3:** Why not?*

L6: Yes

L8: ...and...but it is important for the programme to show that Llanelli have succeeded with the support that they've had and everything. But the big picture is far more...

L3: Well it's eighteen months, two years down the line...

L8: Yeah, yeah. (**Llanelli**).

8.0 General Discussion

The Strong Roots 2 project team spent some time considering the project model. We agreed that the purpose of the project was not to produce four climate change adaptation strategies but to develop behaviours that would tend towards the production of adaptation strategies and to understand the reasons if these behaviours did not develop. The Logic Model stated four adaptation strategies as a primary outputs but the team agreed that if one or more Councils failed to produce a strategy or any coherent adaptation response this would not be regarded as a failure if the team were able to analyse and suggest reasons why this had come about.

The adopted project model allowed for continual reflective practice by the project team and the facilitation of reflective learning in the cohort of Councillors who volunteered to participate in the project.

A key part of the analysis was the before and after comparison undertaken as part of the social psychology research strand of the project. This was an investigation of the attitudes and beliefs underlying behaviours. The data was obtained using a climate change survey and focus group qualitative discussion.

In summary, the repeated measures climate change survey completed by Community and Town Councillors at the end of each phase of focus group interviews has found the following:

- ***Perception of the importance of climate change issues:*** In line with the previous Strong Roots report, climate change was an important issues for Councillors, but not as important an issue as some of the associated impacts (e.g. flooding, sea-level rise). However, perception of the importance of climate change was greater when measured during the project compared to beforehand. Flooding was the most commonly experienced issue across communities; however, during the Programme storms/extreme weather was most frequently experienced. This may reflect the fact that the winter of 2013-14 was particularly stormy throughout the UK, with higher than average rainfall.
- ***Knowledge about climate change:*** The majority of Councillors responded that they knew 'a fair amount' about climate change, though the proportion was only slightly larger than those stating that they knew 'a little'. During the programme, the proportion of councillors claiming to know 'a lot' or 'a fair amount' increased significantly.
- ***Concern about climate change:*** Most community councillors were either 'very concerned' or 'quite concerned' about climate change prior to the programme. During the programme, the number of councillors who were 'very concerned' increased.
- ***Beliefs about climate change:***
 - Across both surveys, most Councillors acknowledged, at least to a degree, that a main cause of climate change was human activity. During the project, the minority initially believing that climate change was caused by natural processes was found to have decreased.
 - In addition, during the programme there was increased agreement with the belief that scientists were in agreement that climate change was caused by human activity and a slight increase in agreement that scientists can be trusted to tell the truth about climate change.
 - Between surveys, Councillors expressed an increased sense that the community had a responsibility to act on climate change, that climate change is a serious problem for Wales, and that those communities would be more seriously affected, though impacts such as drought were still seen as less of a risk than flooding and sea-level rise.
 - Whilst Councillors expressed an increase in the level of responsibility for climate change action within their communities as well as increased support for adaptation, there was still some ambivalence about whether action at the community, national or European levels could make a difference to climate change.

In summary, despite the small and non-representative nature of the sample, the results of both surveys are broadly consistent with the previous Strong Roots survey. The results also demonstrate evidence of perception-change prior to and during the project.

However, whilst Councillors' perceptions changed, they continued to perceive certain climate change risks (e.g. drought) to be less important than others (e.g. flooding) as well as expressing ambivalence over whether taking action at the community level could make a difference to climate change. Therefore, whilst involvement in the pilot engagement programme appears to be associated with a significant and positive shift in climate change perceptions, further research is needed.

In addition to a shift in perceptions and attitudes towards climate change in the survey, there is also some evidence of behaviour change. All four councils managed to co-ordinate activities outside of the structured project workshops, drafted documentation and some had even begun to engage with their communities, for example, by working with local schools and gauging community perceptions of climate change through council newsletters (as done by Abergele Town Council). Moreover, all four Councils were successful in developing their own climate change community engagement plans between the second and third Project Workshops, and presented their plans at the final Workshop.

In addition, focus group responses provide evidence of behaviour change with reference to Councillors' own reflections on the Project (see section 7.0). For example, some reported that they were 'coming together' specifically to talk about climate change issues. There were also indications that Councillors were also talking informally about climate change-related issues within their communities, as well as evidence that they were motivated to learn more about the issues and to champion climate change.

Moving on to the focus groups conducted prior to and during the programme, the following summary findings emerged from the interview transcripts:

- **Motivated community councils:** Local climate change initiatives can capitalise on the motivations of Community and Town Councillors, expressed through a sense of pride and connection to place. In addition, Councillors come from a range of backgrounds with particular skills and experience that they are keen to use in order to serve their communities.
- **Relationships with the local community:** Councillors report that whilst serving the community can be a source of pride, community expectations about what community councils can do can sometimes be unrealistic.
- **Relationships with the local authority:** The capacity for Community and Town Councils to function can sometimes be impeded by problems in their relationships with the other tiers of local government, and other organisations, as some Councillors reported feeling unsupported, neglected and unheard at times.
- **Community issues:** Climate change issues were not typically foremost for Councillors. Competing issues included decline of community, (over)development, economic decline and food/energy poverty. Whilst environmental conditions were perceived to be improved in some areas (particularly for post-industrial communities), the occasional environmental problem (e.g. linked to flooding) cropped up.
- **Beliefs about climate change:** As reflected in the surveys, Councillors were generally aware of and concerned about the issue of climate change, despite the fact that it was not always the most important issue within the community. Climate change was commonly believed to be attributable to human activity and/or natural cycles, although a minority of councillors were more sceptical, asserting that climate change was the result of natural processes. Councillors commonly based their positions on their perceptions of local environmental conditions (e.g. weather, biodiversity) and perceived historical fluctuations in climate.
- **Climate change actions:** A number of Councillors felt that whilst Wales was doing what it could to address climate change, a lack of efficacy stemmed from the perception that other, larger nations were still contributing to climate change and negating any efforts. Conversely. Other Councillors felt that despite this,

they should still set a good example in the hope that others would follow. Climate change was viewed by one or two as a problematic term, because it implied a global perspective and took attention away from local impacts and actions. However, it is important to warn of the danger of totally relinquishing a global perspective, which could lead to a preoccupation with the locality at the expense of the wider world.

- **Climate change knowledge:** Reflecting the survey findings, almost all Councillors considered that their climate change knowledge was limited and at best only slightly better than that of the general population. A significant obstacle was felt to be a sense that climate change knowledge was unavoidably political on every side and that it was difficult to reach the truth.
- **Impressions of the Strong Roots pilot engagement programme:** Despite most Councillors' acceptance of the reality of climate change, it was felt that the wet and stormy winter weather had sharpened the perception that climate change was happening now and that it was happening at a local level. Whilst the potential for impacts from increased precipitation were foremost, Councillors were also mindful of contrasting impacts such as water shortages that could also affect their communities.
- **Working with other community councils:** All four Councils reported that working with other Councils in the workshops was enjoyable and worthwhile. In addition to learning about how they were different from other councils, there was also a sense of commonality in recognising that, despite their difference, each would be affected by climate change impacts.
- **Pilot programme presentations:** One of the most commonly mentioned features of the workshops was the climate change expert presentations. Whilst Councillors generally found them interesting, relevant and convincing, one or two found some of the content a little difficult to understand. Meanwhile, other Councillors felt that more time should have been devoted to practical aspects of community engagement planning rather than technical climate change science.
- **Pilot programme exercises:** A number of different exercises comprised the workshops, which met with generally positive responses. Councillors tended to prefer exercises that were the most relevant to their communities in terms of identifying issues and community engagement (e.g. the mapping local resources exercise). However, there were one or two issues with the formatting of exercise materials and allowing participants to express themselves more fully and in different ways when using project materials.
- **Barriers to engagement:** Having reached a point where they had developed their engagement plans, principal barriers to implementing engagement plans for some Councils involved the problem of engaging with other Councillors, who were seen as being uninterested in the issue of climate change. A more general obstacle across Councils concerned difficulties in reaching the community (or certain elements of the community) on the issue of climate change and engagement.
- **Beyond Strong Roots:** All of the Councils spoke about the project ending and discussed issues to do with maintaining momentum and implementing engagement plans without the support of the Strong Roots research team. However, Councillors felt that a significant objective had already been achieved in generating an ongoing discussion of climate change issues within the community, and there was a sense of confidence that Councils possessed the momentum to progress beyond the end of the project. This was especially the case for Councils such as Llanelli, who were supported by additional community development staff.

The timescale of the project required the project team to gain the Councillors' trust in a short space of time. The programme of meetings, workshops, support visits and mentoring meant that the Councillors met the team on a regular basis. This helped build positive relationships and create an atmosphere of shared learning and enquiry. One Councillor remarked;

'I am really enjoying myself and learning so much. I can't wait for the next session and to start engaging my community in such an important issue'.

The team also needed to develop a range of activities and approaches which would enable the Councillors to explore their perceptions in a safe and supportive learning environment but which would also challenge their understanding and encourage them to reappraise their leadership and community engagement role in relation to climate change. Thus the challenge was to provide enough information and direction without being judgmental, prescriptive or pre-determining what action and approaches the Councils should take, if any. Some of the engagement activities were complex because the terminology and definitions being introduced were new to some of the Councillors and additionally they were being asked to interpret and apply them in relation to their Council's work and activities.

For example at the Support Visits Councillors were asked to map the work and activities their Councils and partners were doing such as creating allotments or cycle routes or developing flood prevention strategies. They were then asked to decide whether these activities were about: *emergency, mitigation, adaptation or resilience building in relation to climate change*. The aim was to enable the Councillors to recognise that many of the activities they are already involved with can be thought of as *climate change mitigation* work and provide a platform for further engagement. The mapping exercise also required them to begin to explore what would be involved in engaging their communities in *climate change adaptation and resilience building* approaches in particular.

In the Focus Groups some Councillors stated they did not fully understand the purpose of some of activities and it may be that better and fuller explanations should have been provided. Because the project was about exploring complex concepts and providing opportunities to push people's understanding, boundaries and thinking then inevitably it may have led to confusion at times. The evidence however, is that despite the confusion some Councillors experienced, the logic model of guided self-reflection and 'plan-do-study-act' resulted in four action plans which demonstrate that the Councils' now recognise their leadership role in relation to climate change and understand that a more holistic approach is needed.

The project team were unanimously surprised and impressed by the adaptation responses adopted by the four Councils. Each adaptation/engagement plan clearly reflects the particular circumstances and starting points that are a consequence of the community history. This has profound implications for how One Voice Wales and its partners roll out the learning from this project. They must avoid saying "this is how to deal with climate change". Rather, the first step is to understand what the community is currently doing (on anything and everything) and then reflect on what climate change might mean for those activities. That should be the "way in". Once that foothold has been established, then experts and statutory bodies can explore climate change more fully with the Councils and their communities. Taking Penarth as an example, their chosen project (long-term biological monitoring and management of the Kymin Park) seems to lack the scope and ambition of Llanelli or Tredegar by not tackling head on the more severe challenges of flooding and drought but when looked at in greater detail the project reveals itself as essentially a very practical and important approach to land management which can be applied universally.

Town and Community Councils have a crucial place in the overall governance framework for Wales: they represent the most local level of formally elected authority. This provides them with intimate access to, and deep understanding of, the communities they represent. All four Councils tended to end the project by focusing on issues that were firmly under their control, or within their gift. This narrow focus underplays the potential value that Community and Town Councils could offer. They should see themselves as part of the continuous ladder of governance (UN – EU – UK – Wales – LA – Town & Community Council – Community – Citizen), so they can facilitate actions that may originate higher up that ladder. For example, there is potentially a key role for them in the planning process, commenting on planning proposals and being listened to respectfully when local knowledge conflicts with regional ambitions. The value of their opinion however is dependent on the quality of analysis and advice they provide. Local knowledge is of little value if it amounts to 'hearsay'. They therefore need the appropriate support and expertise that will reassure others that their advice is based on sound science and accountable, transparent, democratic engagement.

The project team were struck by two things: (a) the dedication and (voluntary) efforts of the Councillors; and (b) the key role of the Clerk to the Council. The sort of community engagement activity that dealing with climate change will inevitably demand requires more resource than is currently available and a skill set that many Clerks probably do not possess. Training of Clerks and Councillors is essential. The project team also wonder if there is a support network of

facilitators who can design and run events – or of local academics or practitioners, who can speak on the science? Project partners C3W could currently offer the latter subject to funding but the former is potentially provided by a range of current actors not least of which is the network of Environment Wales partners such as Keep Wales Tidy, Groundwork and The National Trust as well as independent bodies such as Planed in Pembrokeshire. These organisations would however need to be trained themselves in order to deliver a consistent approach to Climate Change adaptation. The Welsh Government has provided sector based guidance which could form the basis of this consistency.

Figure 31: Workshop 2



8.1 Recommendations

- Community and Town Councillors are committed to their communities and are an under-valued Wales-wide resource. Through their representative body, One Voice Wales, closer connections need to be made with the Welsh Government department for Natural Resources and Food.
- In the future there will be an increased expectation on Community and Town Councils' resources by Unitary Authorities, and Current arrangements for partnership working between both tiers of local government need to be further enhanced and reflected in the joint Charter arrangements
- There is a need to support and build the capacity and skills of community groups to work in partnership with Town and Community Councils as well as raising the general awareness of the powers and responsibilities of this tier of local government.
- If Welsh Government place-based funding is to be continued (for example in supporting Environment Wales Development Officers) then this should explicitly take account of the role of community and town councils and connect them to the local infrastructure and development plans so that they can enhance the effectiveness of locally based approaches and help sustain the continuing benefit of local interventions. (e.g. Cynefin Place Based Leadership Programme).
- The connections between the local and the national tiers of government require review to ensure that national and regional approaches can be better understood and effectively sustained at the local level and provide inter-connectivity with Local Service Board arrangements.
- Public agencies need to be more responsive to local needs and closer engagement with community and town councils can assist in creating a greater awareness and understanding of local needs and requirements
- Community and Town Councils will be expected to take on more responsibilities and this implies a greater need for enhanced relationships with the Unitary Authorities. The Future Generations Bill will mean increased and different duties for Local Authorities and Community and Town Councils which will likely create need for policy and strategy to be informed by local knowledge and evidence-based policy making. In terms of the introduction of a sustainability duty for the sector, there will be a need for resources to be made available to pump-prime the key strategic activities that will be required to undertake robust community planning and engagement with local electors. Research should be informed by community perspectives because some policies impact adversely on local communities but the Councils are still required to enact the policies despite the adverse impact The Strong Roots pilot Councils need to progress their Projects to demonstrate what Community and Town Councils as a sector can do in relation to climate change and provide a best practice exemplar for others to follow
- There remains a need for both legacy work and a way forward for this Pilot to ensure the learning and impetus that the Project has generated is not lost. At the very minimum, it is hoped that funding can be identified to develop a guidance toolkit as well as a training module that can be used to enhance knowledge and understanding in the sector. One Voice Wales would be very keen to work with experts in the field to take a lead role in taking forward a legacy project.

8.2 Conclusions from the Social Research Outputs of the Project

Taking into account the three main elements of the social research outputs of the project (academic literature review, focus groups and surveys), the following conclusions are made:

- The potential role of Community and Town Councils in addressing climate change:
 - Community councils constitute a valuable and relatively unexploited resource for addressing climate change adaptation and resilience at the local level, and occupy an important position at the interface of citizens and local government.
 - In order to fulfil their potential, Councils require additional powers, resources and funding, particularly as Councillors work on a voluntary basis. Assisting them with advice on funding opportunities and help with applications may be useful in translating ideas for initiatives into action.
 - The social research supports a view of Councillors, in line with the Welsh public, as highly aware and concerned about climate change and the potential impacts for Wales and their communities. Conversely, confidence in climate change knowledge is not perceived to be high, and there is a need to address some specific issues, such as broadening awareness of potential impacts of climate change beyond flooding and sea-level rise.
 - Given the differences between the size, resources, political will and overall capacity of Councils to act on climate change, these should be carefully considered and assessed in advance of expanding their remit.
 - Relationships and communications between Councils and higher tiers of government need to be strengthened so that community councils feel supported by the Local Authority and valued as 'local experts'. Whilst Strong Roots 2 has focused on Community and Town Councils it is likely that interventions will need to be targeted at multiple tiers of local government.
 - Further to the above, the culture of environmental apathy *within* Councils needs to be challenged. One way of achieving this is to develop initiatives that promote the achievement of both climate change objectives and 'other' issues affecting the community. Broadening perceptions of climate change impacts beyond simple environmental impacts to emphasise impacts on other fundamental life support systems (e.g. food and energy security, health) may help to achieve this.
 - Engaging with communities remains a difficult task for Councils, and it is important that initiatives are realistic in what they can hope to achieve. Reaching all sections of the community and managing expectations are especially difficult, particularly when climate change is competing with more immediate community issues. The previous point, suggesting that initiatives should, where possible combine climate change and broader community goals, may help to facilitate community involvement.
 - Individual mental models can be difficult to change generally, whether working with Councillors, or groups or individuals within the community. When developing projects, it is important to acknowledge existing perceptions and to tailor initiatives appropriate to the audience. It is unlikely that a one-size-fits-all approach will benefit all Councils and community groups in the same way. Pluralistic methods of education delivery should be considered, combining innovative technologies (e.g. online learning) with more traditional methods (e.g. mentor support) that can be more flexibly structured to the needs of the audience.
 - People are *active* information processors. It is important that both climate change sources and content are perceived as credible by the audience. Merely providing information is not sufficient; an awareness of the mental models and preconceptions of the audience can be useful to tailor

communications in ways that are more meaningful to the audience (e.g. ensuring that information is both analytical *and* experientially grounded at the local level) in order to optimise effectiveness.

- Efforts should be made not only to underline the potential efficacy of community level actions on climate change, but also regional and national efficacy, to counter common perceptions that actions are ineffective in the wider global context. Celebrating milestones and achievements offers a way of highlighting the effectiveness of community action and maintaining momentum.
- Focusing on global issues is not sufficient in itself when engaging at the local level. A more experiential component that deals with climate change at the local level should also be included, as this is likely to have greater impact because issues are perceived as more relevant and more understandable.
- Interventions must be demonstrated to be relevant to Councils, understandable and rendered in an appropriate metric that enables them to respond fully in ways that are personally meaningful. Achieving a balance between global and local perspectives is also key to relevance, understanding and maintaining engagement.
- Further to the above, framing initiatives only as 'climate change' initiatives may obstruct progress due to conflicting perceptions on causes. Framing initiatives as addressing 'local issues' as well as 'climate change' may help avoid the prospect of disengaging some councillors due to conflicting perceptions about the nature of climate change.
- Bringing Councils together can enhance initiatives, enabling them to increase networking opportunities, share experiences, ideas and examples of good practice in a supportive environment. Whilst all Councils have their own issues, recognising that they are not alone in facing these challenges can increase motivation and inform strategies.
- Building trust between Councils and the communities they represent is crucial if initiatives are to be effective. Working with Councils to address issues surrounding community engagement both in theory and in practice was an important prerequisite in the project model.
- Councils will differ in the amount of support they will require when embarking on novel projects. Identifying existing sources and gaps in support, maintaining a dialogue with councils throughout the process and remaining sensitive and responsive to needs will increase confidence and facilitate outcomes.

As a final point, whilst a significant amount of research has been conducted in order to plumb the views and opinions of Community and Town Councillors, as a research team we acknowledge the importance of our own reflections on the project. In reflecting on the process as researchers we acknowledge our own positions and perspectives as active agents influencing the project and our interactions with the Councils. This in itself would provide valuable learning to help guide our own research practice and inform future projects.

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Figure 32: Workshop 3



References

- Adger, W.N. (2010). Social capital, collective action and adaptation to climate change. *Economic Geography*, 79 (4), 387-404).
- Alexander, K.S., Ryan, A. & Measham, T.G. (2011). *Managed retreat of coastal communities: understanding responses to projected sea level rise*. Canberra: CSIRO Working Paper Series 2010-06.
- Amundsen, H., Berglund, F. & Westskog, H. (2010). Overcoming barriers to climate change adaptation: a question of multilevel governance? *Environment and Planning C-Government and Policy*, 28 (2), 276-289.
- Anderson, J. (2008). Talk to the hand? Community councils and planning consultation. *Planning Theory*, 7 (3) 284-300.
- Archie, K.M. (2014). Mountain communities and climate change adaptation: barriers to planning and hurdles to implementation in the Southern Rocky Mountain Region of North America. *Mitigation and Adaptation Strategies for Global Change*, 19 (5), 569-587.
- Archie, K.M., Dilling, L., Milford, J.B. & Pampel, F.C. (2014). Unpacking the 'information barrier': comparing perspectives on information as a barrier to climate change adaptation in the interior mountain West. *Journal of Environmental Management*, 133, 397-410.
- Baker, I., Peterson, A., Brown, G., McAlpine, C. (2012). Local government response to the impacts of climate change: an evaluation of local climate change plans. *Landscape and Urban Planning*, 107 (2), 127-136.
- Biesbroek, G.R., Klosterman, J.E.M., Termeer, C.J.A.M. & Kabat, P. (2013). On the nature of barriers to climate change adaptation. *Regional Environmental Change*, 13 (5), 1119-1129.
- Borne, G. (2010). *Promoting sustainable communities in Devon and Cornwall: education and training. Final report*. University of Plymouth: Promoting Sustainable Communities, 2 (1).
- Björnberg, K.E. & Hansson, S.O. (2011). Five areas of value judgement in local adaptation to climate change. *Local Government Studies*, 37 (6), 671-687.
- Capstick, S.B., Pidgeon, N.F. & Whitehead, M.S. (2012). *Public perceptions of climate change in Wales: Summary findings of a survey of the Welsh Public conducted during November and December 2012*. Cardiff: Climate Change Consortium of Wales.
- Center for Research on Environmental Decisions (2009). *The psychology of climate change communications*. New York: Trustees of Columbia University.
- Ennis, K.L. (2013). *Transition Towns: building resilience through collaborative planning*. Unpublished Dissertation.
- Feola, G. & Nunes, R. (2014). Success and failure of grassroots innovations for addressing climate change: the case of the transition movement. *Global Environmental Change*, 24, 232-250.
- Fudge, S. & Peters, M. (2009). Motivating carbon reduction in the UK: the role of local government as an agent of social change. *Journal of Integrative Environmental Sciences*, 6 (2), 7596-7603.
- Gifford, R. (2011). The dragons of inaction: psychological barriers that limit climate change mitigation and adaptation. *American Psychologist*, 66 (4), 290-302).

- Lorenzoni, I., Nicholson-Cole, S. & Whitmarsh, L. (2007). Barriers perceived to engaging with climate change among the UK public and their policy implications. *Global Environmental Change*, 17, 445-459.
- Measham, T.G., Preston, B.L., Smith, T.F., Brooke, C., Gorddard, R., Withycombe, G. & Morrison, C. (2011). Adapting to climate change through local municipal planning: barriers and challenges. *Mitigation and Adaptation Strategic Global Change*, 16, 889-909.
- Middlemiss, L. (2011). The effects of community-based action for sustainability on participants' lifestyles. *Local Environment*, 16 (3), 265-280.
- Middlemiss, L. & Parrish, B.D. (2010). Building capacity for low-carbon communities: the role of grassroots initiatives. *Energy Policy*, 38 (12), 7559-7566.
- Millward, L. (2012). Focus groups. In G.M. Breakwell, J.A. Smith & D.B. Wright (eds). *Research methods in psychology (4th ed)*, 411-438. London: Sage.
- Morgan, D. (2010). Reconsidering the role of interaction in analysing and reporting focus group data. *Qualitative Health Research*, 20, 718-722.
- Morgan, D.L. (2007). Paradigms lost and pragmatism regained: methodological implications of combining qualitative and quantitative methods. *Journal of Mixed Methods Research*, 1 (1), 48-76.
- Morgan, D.L. (1996). Focus groups. *Annual Review of Sociology*, 22, 129-152.
- Moser, S.C. & Luers, A.L. (2008). Managing climate risks in California: the need to engage resource managers for successful adaptation to change. *Climatic Change*, 87, 309-322.
- Ockwell, D., Whitmarsh, L. & O'Neill, S. (2009). Reorienting climate change communication for effective mitigation: forcing people to be green or fostering grass-roots engagement? *Science Communication*, 30 (3), 305-327.
- O'Neill, S. & Nicholson-Cole, S. (2009). "Fear won't do it": promoting positive engagement with climate change through visual and iconic representations. *Science Communication*, 30 (3), 355-379.
- Peters, M., Fudge, S. & Hoffman, S.M. (2013). The persistent challenge of encouraging public participation in the low-carbon transition. *Carbon Management*, 4 (4), 373-375.
- Peters, M., Fudge, S. & Sinclair, P. (2010). Mobilising community action towards a low-carbon future: opportunities and challenges for local government in the UK. *Energy Policy*, 38 (12), 7596-7603.
- Preston, I., White, V., Lloyd-Price, L. & Anderson, W. (2009). *Best practice review of community action on climate change. Final Report, May 2009*. Bristol: Centre for Sustainable Energy on behalf of the Energy Saving Trust.
- Robbins, C. & Rowe, J. (2010). Unresolved responsibilities: exploring local democratisation and sustainable development through a community-based waste reduction initiative. *Local Government Studies*, 28 (1), 37-58.
- Scannell, L. & Gifford, R. (2013). Personally relevant climate change: the role of place attachment and local versus global message framing in engagement. *Environment and Behavior*, 45 (1), 60-85.
- Schuldt, J. (2011). "Global warming" or "climate change"? Whether the planet is warming depends on question wording. *Public Opinion Quarterly*, 75 (1), 115-124.

- Shaw, K. (2012). The rise of the resilient local authority? *Local Government Studies*, 38 (3), 281-300.
- Shaw, A., Sheppard, S., Burch, S., Flanders, D., Wiek, A., Carmichael, J., Robinson, J. & Cohen, S. (2009). Making local futures tangible-synthesizing, downscaling and visualising climate change scenarios for participatory capacity building. *Global Environmental Change*, 19 (4), 447-463.
- Sturzaker, J. (2011). Can community empowerment reduce opposition to housing? Evidence from rural England. *Planning Practice & Research*, 26 (5) 555-570.
- Tewdwr-Jones, M. (1998). Rural government and community participation: the planning role of community councils. *Journal of Rural Studies*, 14 (1), 51-62.
- Tompkins, E.L., Adger, W.N., Boyd, E., Nicholson-Cole, S., Weatherhead, K. & Arnell, N. (2010). Observed adaptation to climate change: UK evidence of transition to a well-adapting society. *Global Environmental Change*, 20 (4), 627-635.
- Wejs, A., Harvold, K., Larsen, S.V. & Saglie, I.L. (2014). Legitimacy building in weak institutional settings: climate change adaptation at local level in Denmark and Norway. *Environmental Politics*, 23 (3), 490-508.
- Whitmarsh, L. (2009). What's in a name? Commonalities and differences in public understanding of "climate change" and "global warming". *Public Understanding of Science*, 18 (4), 401-420.
- Whitmarsh, L., Reis, J., Lazarus, E., Egan, P., Thomas, R. & Nash, N. (2013). Strong Roots climate change perception report: views of Community Councillors in Wales. Ammanford: One Voice Wales.
- Whitmarsh, L., Seyfang, G. & O'Neill, S. (2011). Public engagement with carbon and climate change: to what extent is the public 'carbon capable'? *Global Environmental Change*, 21 (1), 56-65.
- Wilson, E. (2006). Adapting to climate change at the local level: the spatial planning response. *Local Environment*, 11, 609-625.
- Wolff, B., Knodel, J. & Sittitrai, W. (1993). Focus groups and surveys as complementary research methods: a case example. In D.L. Morgan (ed). *Successful focus groups: advancing the state of the art*, 202-224. Newbury Park CA: Sage.
- Woods, M., Edwards, B., Anderson, J., Gardner, G. & Hughes, R. (2002). *Research study into the role, functions and future potential of Community and Town Councils in Wales. First Interim Report to the Welsh Assembly Government*. University of Wales, Aberystwyth: Institute of Geography and Earth Sciences Regional Change and Development Research Group.